

MICHAEL KOBBS

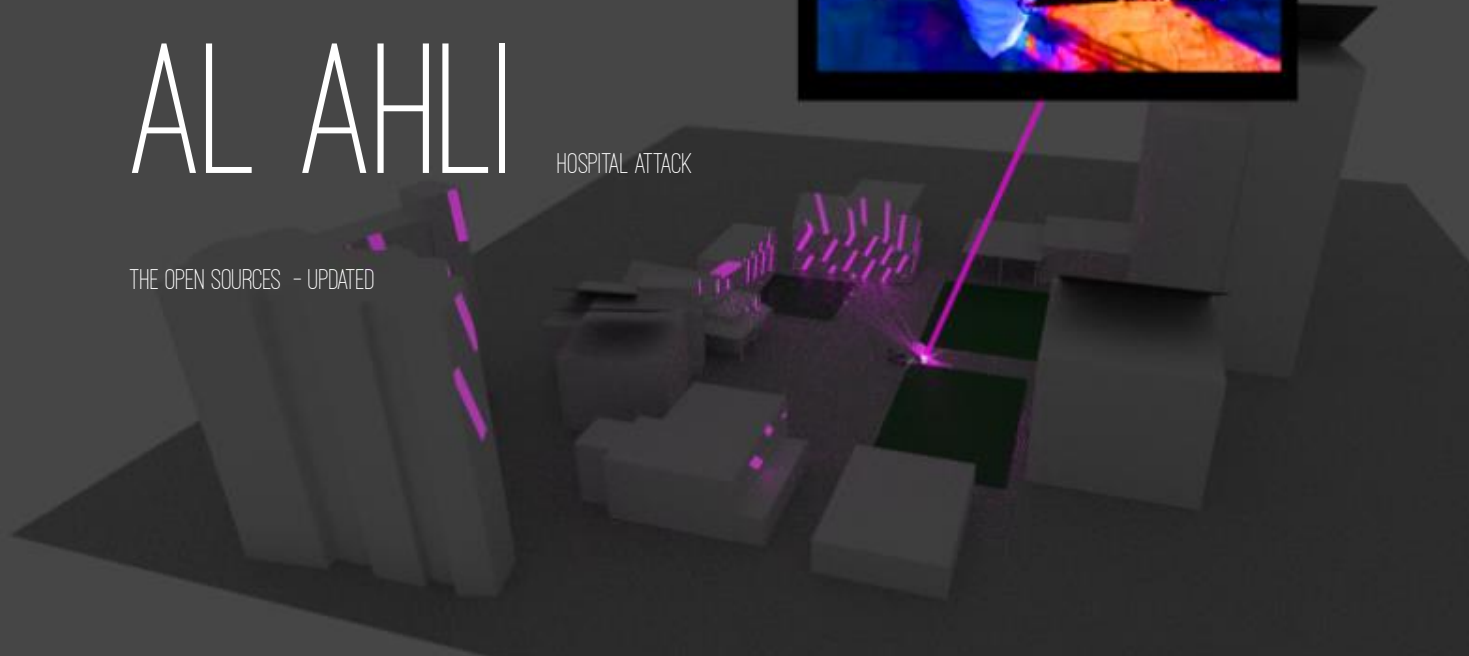
Independent analysis of open-source evidence
with the support of the online community



AL AHLI

HOSPITAL ATTACK

THE OPEN SOURCES - UPDATED



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INTRODUCTION

On Tuesday, October 17, the Al Ahli hospital in Gaza City was hit by a rocket. After the civilian population was ordered to leave the north of the Gaza Strip, the hospital was overcrowded with injured people and those seeking shelter. According to press reports, the suspected airstrike left around 500 people dead, including many children. While Palestinian sources spoke of an attack by the Israeli air force, Israel denied the blame and claimed that a Hamas rocket had hit the hospital.

News of the attack led to spontaneous mass protests around the world, while Israel's allies in the US and Europe branded these protests as support for a terrorist organization and echoed the Israeli military's narrative in the media.

This study proves that the missile was fired by Israeli fighter jets in a targeted attack.



Aftermath of the attack, source: Internet

OCTOBER 14 ATTACK

According to [Le Monde \(archived\)](#) of October 18, the hospital was attacked on October 14. A press report in the [Palestine Chronicle \(archived\)](#) from October 15 confirms this attack.

Israeli sources interpreted this attack as a warning for a speedy evacuation.

Al-Ahli Hospital in Gaza Hit with Direct Israeli Strike - PHOTOS & VIDEO

October 15, 2023 Articles, Features



Al-Ahli Arab Hospital has been hit with a direct Israeli military strike. (Photo: Supplied)

Palestine Chronicle of October 15

The Al Ahli Arab Hospital had already been damaged by an Israeli bombing on October 14; four staff members were wounded, reported Archbishop of Canterbury Justin Welby on behalf of the Anglican Church, to which the Episcopal Church of Jerusalem is attached. The next day, the Israeli army had called the hospital's director to tell him that these two shots were warnings to evacuate, local Ministry of Health undersecretary Yousef Abu Al-Rish reported at a press conference on Tuesday evening, surrounded by the bodies of victims.

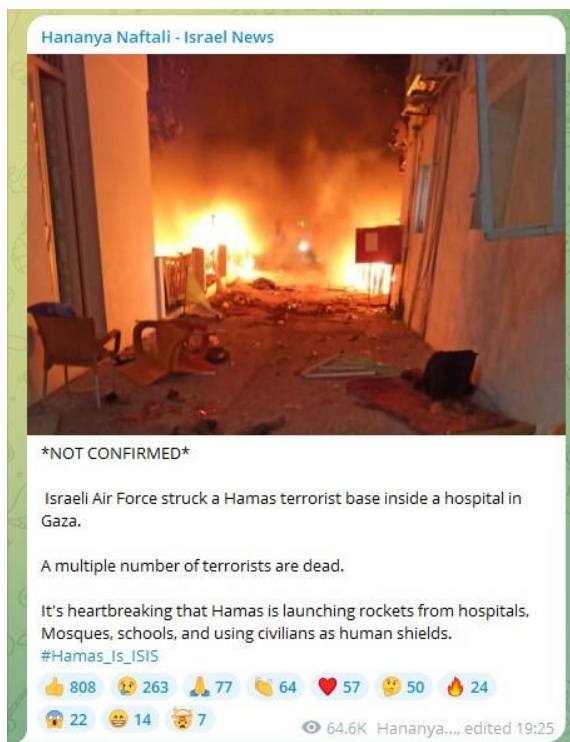
In 11 days, 16 health workers have been killed in the course of their work in the Gaza Strip, according to the World Health Organization. Four hospitals are out of service.

Le Monde of October 18

OCTOBER 17 ATTACK - OFFICIAL ISRAELI ACCOUNT

Since Hananya Naftali served as a tank driver in "Operation Protective Edge" against Gaza in 2014 and became aware of the worldwide protests against the killing of civilians (see [Jewish News Syndicate](#)), he has seen it as his task as an internet influencer to convey the truth about the Israeli military's operations to the world.

In an initial reaction, he declared on Telegram and Twitter that the Israeli air force had successfully attacked a Hamas terror base in the hospital. Following the military's official account, he deleted the tweet and corrected his account on Telegram, stating that a misguided Hamas missile had probably hit a weapons cache.



Israel's reaction on social media

In a statement on CNN, the Israeli military referred to Al Jazeera's live coverage, which at the time in question showed a rocket exploding in the sky seconds before the explosion at the hospital. A military spokesperson stated that all evidence can be found on Al Jazeera.



Live report from Al Jazeera as a statement from the Israeli military on CNN

In addition, the Israeli military published an infographic showing that a barrage of Hamas rockets flew from the southwest right over the hospital. Together, this produced an explanation that was widely accepted and reported in the media.



Israeli military presents trajectory of Hamas rocket according to radar data

In addition, Israeli intelligence published an allegedly intercepted phone conversation between Hamas operatives discussing a failed rocket launch or a downed rocket. Although this alleged conversation makes no coherent sense and contradicts the military's account, this alleged evidence was accepted uncritically. Hananya Naftali tweeted "Game Over".



Presentation of the allegedly overheard Hamas phone call, Naftali tweet "Game Over"

In support of the official Israeli narrative, Israeli broadcaster Channel 12 released video footage from Netivot (southwest of Gaza City) showing a barrage of Hamas rockets and an explosion labeled as "hospital".



Channel 12 shows explosion coinciding with rocket launch at 18:59:20

President Biden, who had arrived in Israel for a lightning visit, read his statement sitting next to Netanyahu "...and based on what I've seen, it appears it was done by the other team, not you. But there are a lot of people out there who are not sure. So, we got to get to overcome a lot of things."



[i24-News](#) tweet with video of the Biden speech

EVIDENCE 1: AL-JAZEERA VIDEO

The live video from [Al-Jazeera](#), which shows the exploding rocket in the sky, zooms in on the burning hospital at the end. The sloping solar roofs are clearly visible and they are facing southwest. This means that the Al-Jazeera camera is looking south-east.



Viewing direction and geolocation of the Al Jazeera camera at 31.514038° 34.450149°

This means that the rocket shown by Al Jazeera rose to the east of the hospital and was therefore an Israeli rocket. It was probably a missile from the Iron Dome defense system, which responded to the rockets launched by Hamas. The explosion therefore occurred either because a Hamas rocket was intercepted or because it self-destructed, missing a target. It is not known whether the Iron Dome missiles have a self-destruct routine, but it is conceivable for obvious reasons.

The line of sight refutes the Israeli military's claim that the rocket shown on Al Jazeera was a Hamas rocket launched in the southwest of the hospital.

Another thesis stated that parts of the exploded rocket fell on the hospital. This thesis will also be refuted below.

EVIDENCE 2: THE CHANNEL 12 VIDEO

The Channel 12 video footage was taken from a balcony in Netivot (31.439740° 34.573201°). The Channel 12 camera (blue) is facing northwest, almost exactly opposite the Al Jazeera camera (red).



Geolocation and viewing direction of the Channel 12 camera in Netivot

Initially, [Channel 12](#) had published the wrong video showing a few seconds of the night sky at 19:59 local time, exactly one hour after the attack on the hospital.



Falsely published video from 19:59



Video from 18:59

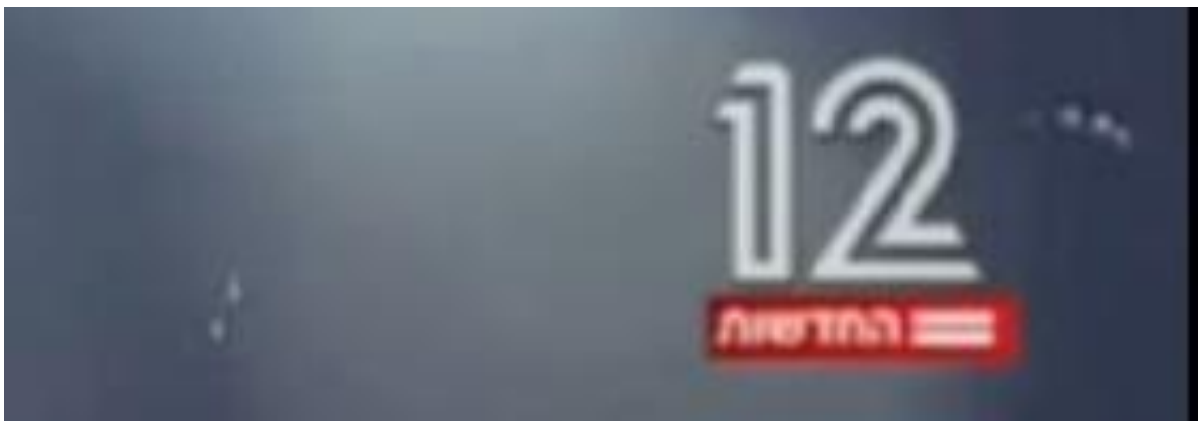
The erroneously released video footage from 19:59 shows a barrage of Hamas rockets ascending slightly north of the line of sight to the hospital. Seconds later, lights appear in the sky south of the hospital followed by two explosions on the ground.

After realizing the error in the video footage that was delayed by an hour, Channel 12 also released the 18:59 footage, but the video ended at second 18:59:20, while the explosion at the hospital occurred about 25 seconds later. Nevertheless, the 18:59 video also showed a barrage of Hamas rockets ascending, but this time south of the line of sight to the hospital. However, the arrow pointed to a rocket launch that appeared much closer and not in line with the Hamas rockets. In addition, the explosion labeled as "hospital" not only occurred much too early, but also at the same time as the rocket launch.



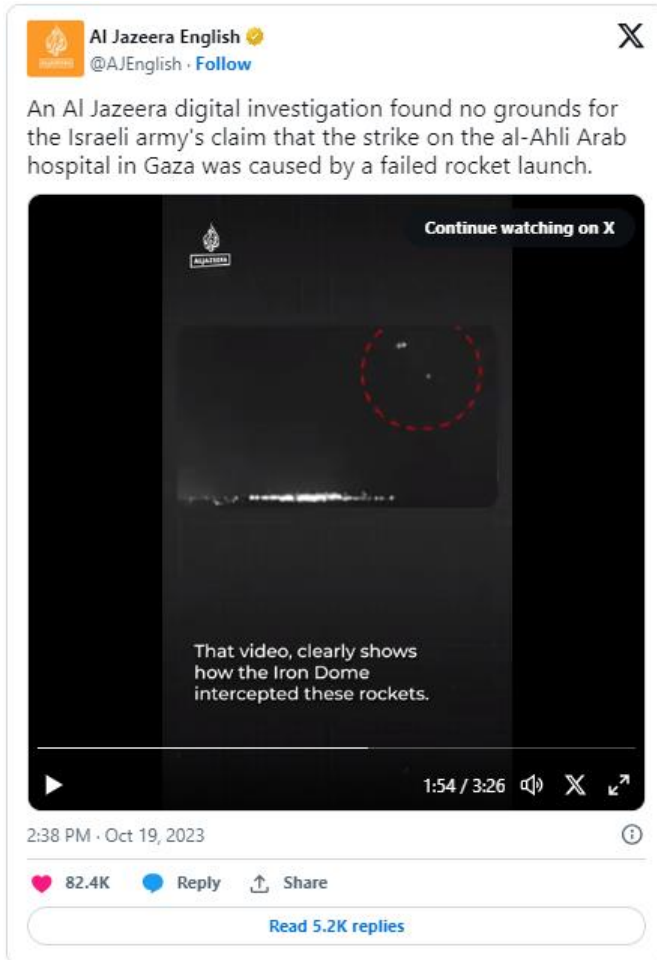
Rocket launch and explosion at 18:59:20

The rocket launch can therefore not be connected to the explosion. Just as the rocket launch frozen in the image cannot be related to the Hamas barrage. What is striking, however, is that the same lights can be seen in the night sky an hour earlier, at 18:59, as an hour later. And these lights are also followed by explosions on the ground in the 18:59 video.



Lights (decoy flares) in the night sky

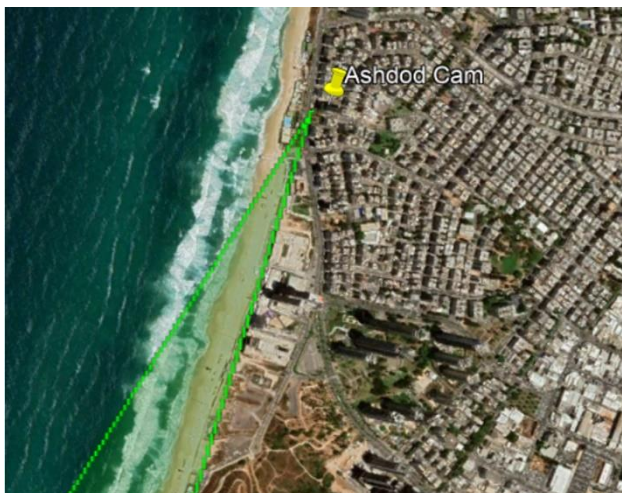
In a video analysis by [Al Jazeera](#), these lights were interpreted as missiles intercepted by the Iron Dome system.



Al Jazeera [video analysis](#)

However, this interpretation is contradicted by the fact that these lights were not seen by the Al Jazeera camera, which looks southeast and thus observes the Gaza border strip. These lights were therefore moving in the western part of the Gaza Strip, where they were seen by the Channel 12 camera.

A third camera, a city cam in Ashdod (32.016715° 34.739147°), also saw the lights.



City-Cam Ashdod





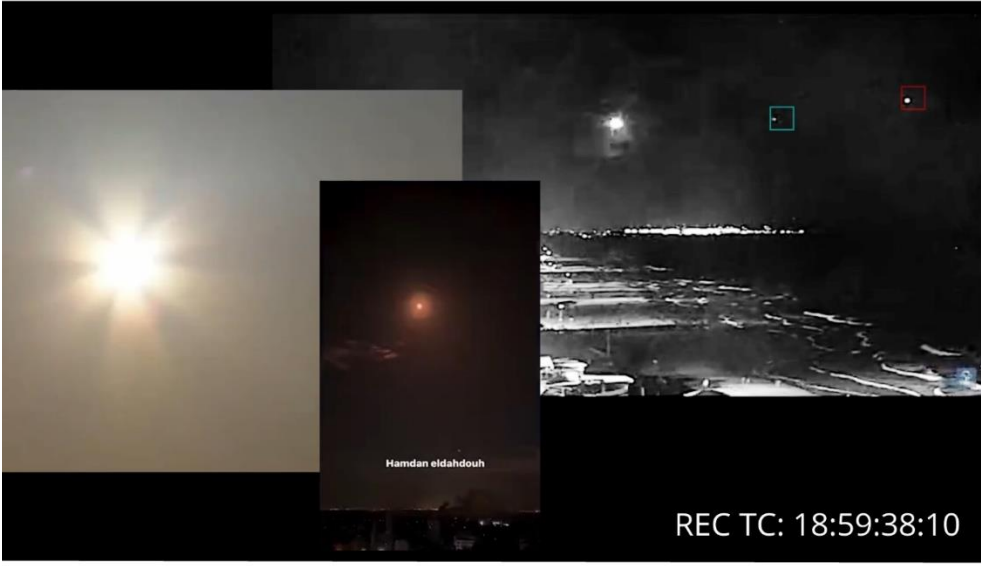
[Ashdod City-Cam](#): Lights (decoy flares) over the west coast of the Gaza Strip

The intermittent appearance of the lights and their movement indicates so-called decoy flares, which are dropped by military aircraft to deflect infrared anti-aircraft missiles. A [video](#) taken from the steps of Al Quds Hospital (31.505892° 34.430211°) in Gaza City documented the use of decoy flares before a nearby bombing.



Decoy flares of an airplane before the bombing near Al Quds Hospital

By synchronizing the available videos from 3 different angles, it can be proven that the rocket launch shown at 18:59:20 in the Channel 12 video is the same rocket that explodes in the sky in the Al Jazeera video at 18:59:38 (see below). The explosion at Al Ahli hospital occurred at 18:59:45. The video shown in the following screenshots below center with the words "hamdan eldahdouh" was taken from the same rooftop where the Al Jazeera camera was located.



Video synchronization

- 18:59:20, Launch of an Israeli rocket
- 18:59:38, Explosion of the Israeli rocket
- 18:59:45, Explosion at Al Ahli hospital

The video synchronization proves that

- the barrage of Hamas rockets ended before 18:59:20
- the rocket visible in the Al Jazeera live report is not a Hamas rocket
- this rocket exploded 18:59.38 far east of the hospital
- decoy flares can be seen near the hospital the entire time
- until the explosion in the hospital at 18:59:45 no further rocket took off from the ground

It can also be concluded that debris from the exploded Israeli rocket and/or an intercepted Hamas rocket had only 7 seconds to reach the hospital, while free fall in a vacuum from a height of about 6000m takes about 35 seconds. It is therefore impossible that debris could have reached the hospital without visible rocket propulsion.

EVIDENCE 3: THE WIRETAPPED PHONE CALL

If you listen to the [video](#) of the phone call allegedly intercepted by the Israeli intelligence service, the first thing you notice is that both speakers are only speculating. One of the two speakers only asks questions and does not contribute any information.

The impression is obscured by the fact that the video presentation jumps back and forth at random between speaker #1 and speaker #2. Even the first sentence is split between the two speakers, although only one voice is speaking.

If you assign the voices to the speakers, you get the following dialog:

HOpR: "I'm telling you this is the first time that we see a missile like this falling and so that's why we are saying it belongs to the Palestinian Islamic Jihad."

HOpL: "What?"

HOpR: "They are saying it belongs to Palestinian Islamic Jihad."

HOpL: "It's from us?"

HOpR: "It looks like it."

HOpL: "Who says this?"

HOpR: "They are saying that the shrapnel from the missile is local shrapnel and not like Israeli shrapnel."

HOpL: "What are you saying (name)? ... "But God bless, it couldn't have found another place to explode?"

HOpR: "Never mind, yes, (name) they shot it from the cemetery behind the hospital."

HOpL: "What?!"

HOpR: "They shot it coming from the cemetery behind the Al-Ma'amadani Hospital, and it misfired and fell on them."

HOpL: "There's a cemetery behind it?"

HOpR: "Yes, Al-Ma'amadani is exactly in the compound."

HOpL: "Where is it when you enter the compound?"

HOpR: "You first enter the compound and don't go toward the city and it's on the right side of the Al-Ma'amadani Hospital."

HOpL: "Yes, I know it."



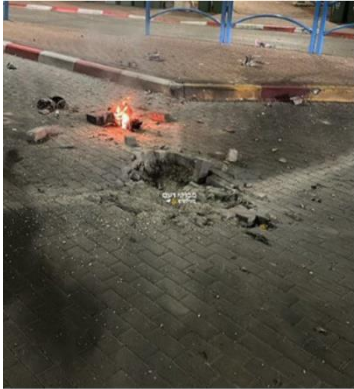
Cemetery opposite the hospital

According to this conversation, " Hamas Operative Left" (HOpL) knows nothing about the incident, while " Hamas Operative Right" (HOpR) is also only reporting hearsay.

However, the idea that a rocket from the neighboring cemetery hit the hospital is absurd for several reasons.

- 1) Hamas rockets have always been fired in barrages in order to partially breach the Iron Dome's protective shield due to the number of rockets. The firing of an isolated rocket contradicts everything that has been seen of Hamas so far.
- 2) A rocket from the cemetery would have illuminated the front of the hospital at launch and the propulsion fire would have been clearly visible from the Al Jazeera / Hamdan Eldahdouh perspective.

- 3) A launch from the cemetery contradicts the IDF's official claim that the rocket came from the Hamas barrage launch site southwest of Gaza City.
- 4) The picture of destruction (craters, fragmentation pattern, radius of destruction) at Al Ahli hospital does not match the picture at other Hamas rocket impact sites.



Destruction caused by Hamas rockets



Destruction at Al Ahli hospital

OSINT / PROPAGANDA

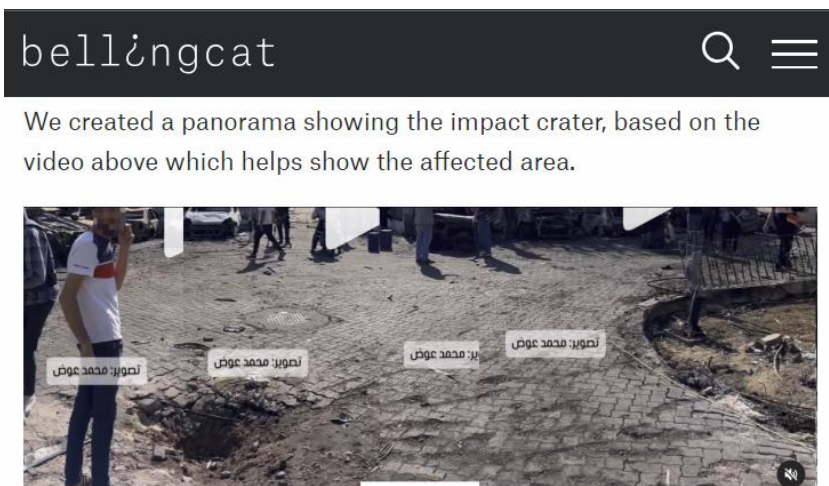
Israel's official account was followed by a number of media reports calling themselves analyses and claiming to follow the forensic data.

For example, [Associated Press](#) links the ascent of the Israeli rocket in the east of Gaza in the Al Jazeera video to a barrage of Hamas rockets seen from the north (Netiv HaAsara, 31.567206° 34.537179°) without a timestamp. Then AP shows the timestamp of the Al Jazeera video at the time of the explosion in the hospital, which is only accurate to the minute. In this way, AP mixes different events, which are then claimed by supposed experts to be the same event and the cause of the explosion. It is striking that AP does not use any video material that shows the permanently present decoy flares over Gaza City, which means that AP knowingly or unknowingly hides the decisive clue.



AP "visual analysis" combines three unrelated events as an explanation

The Open Source Intelligence (OSINT) group [Bellingcat](#), which is known for its selective contribution to official propaganda efforts, is content for the time being to depict the crater in the hospital in an article.



A panorama image generated using an Instagram post of video taken at the blast site.

Bellingcat video mapping

Apparently, the Bellingcat article was a response to another propaganda effort. The Israeli military had previously claimed that the lack of a 7 to 19 meter crater was proof of Israel's innocence. In this way, Bellingcat also concludes that it was probably not a 250 - 1000 kg bomb.

IDF says lack of crater at hospital blast site proves it wasn't behind strike

By EMANUEL FABIAN
18 October 2023, 8:15 am



Screen capture from an IDF video that it says shows IDF ordnance did not cause a blast at the parking lot of Al-Ahli Baptist Hospital in Gaza, released on October 18, 2023. (screen capture)

Source: [Times of Israel](#)

Remarkably, however, Bellingcat's video mapping of the crater shows only a small part of the crater's surroundings, namely the side with the fragmentation marks in the pavement pointing towards the starting point of the Hamas barrage.



video mapping of the entire scene

Bellingcat was followed by Bellingcat partners [Forensic Architecture](#), who most recently redrew an OPCW investigator's crime scene sketches of the Douma investigation to fit a desired narrative.

Based on the Bellingcat excerpt and a drone photo, Forensic Architecture undertakes what they present to the outside world as a forensic analysis. However, the drone photo shows the crater at a point in time after countless aisles of rescue and relief workers had distributed concrete dust and the sand dug out of the crater, so that the fragmentation marks on the northeast side of the crater are no longer recognizable.



Palestinian police dig for debris from the weapon.
The excavated sand was distributed by passers-by.

For an unknown reason, Forensic Architecture interprets the still visible remnants of the fragmentation traces (less than 25%) as a forward-directed spray, which is fundamentally wrong. The conclusion is then a direction of flight that roughly points in the direction of the exploded Israeli rocket, so that this doubly false result can only be understood if the conclusion has been worked backwards.

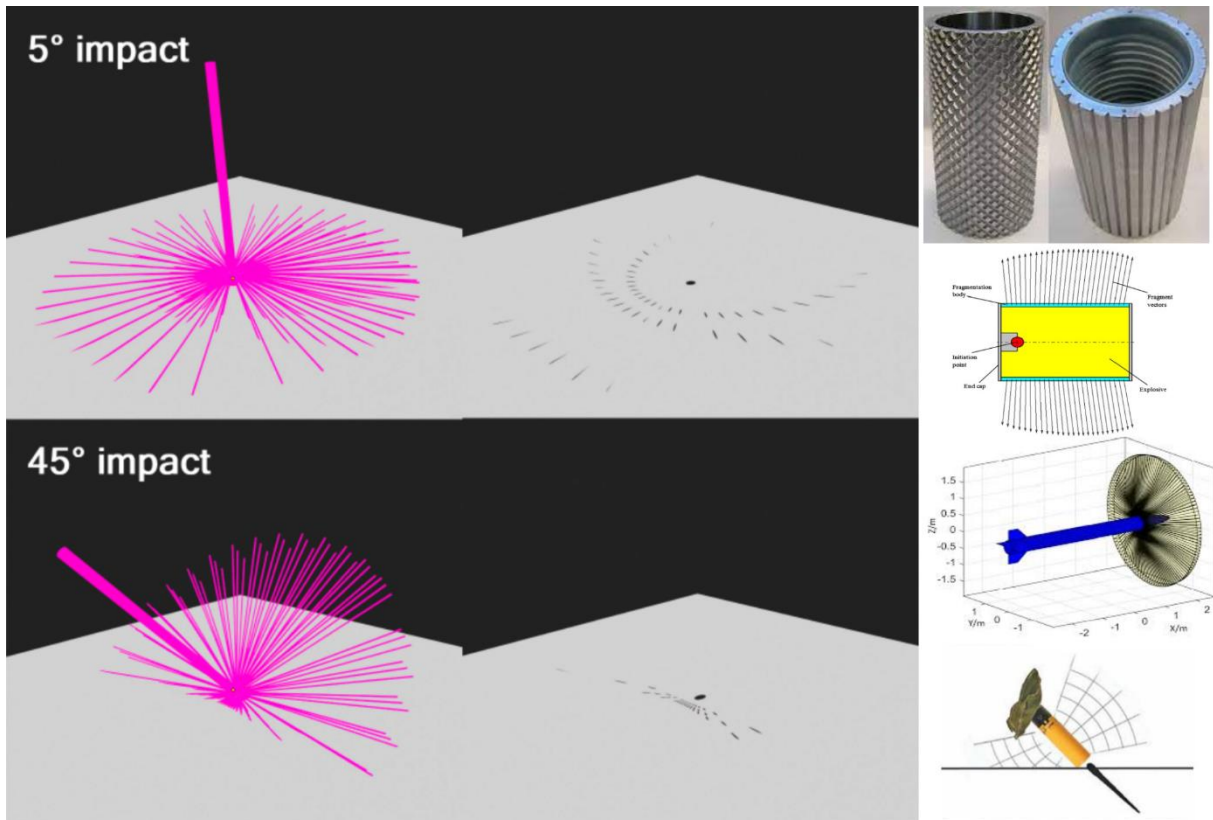


Left: Drone photo with hidden traces of fragmentation
Right: Interpretation of [Forensic Architecture](#) (green)



FRAGMENTATION PATTERN

Basically, fragmentation traces occur behind or below the trajectory of a missile or grenade with a fragmentation warhead. And they usually arise symmetrically to the trajectory, as the fragments spread evenly and ring-like around the trajectory.



Left: Trajectory, dispersal of fragments, fragmentation pattern
Right: principle of a fragmentation warhead

And so Forensic Architecture shows an excellent example of a missile impact. This rocket clearly came from the direction of the camera. However, Forensic Architecture seems to interpret the fragmentation pattern rotated 180° as a forward-directed spray, which is incorrect.



[Forensic Architecture](#), Example of Fragmentation Patterns

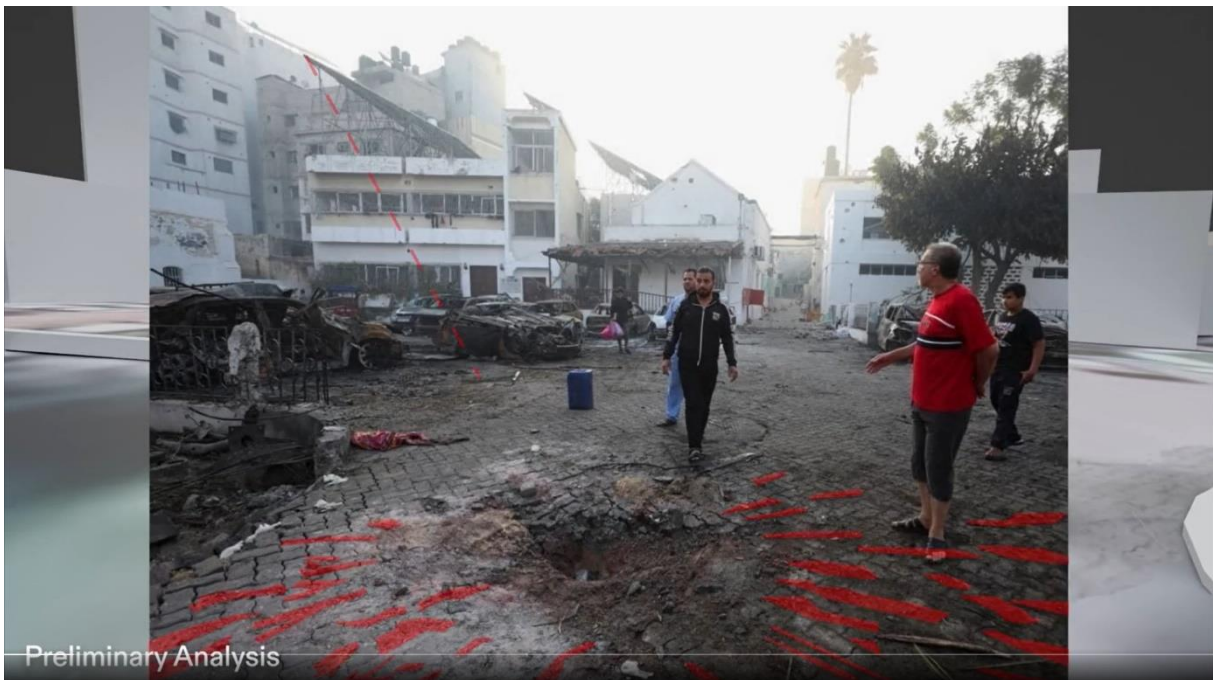


similar examples of fragmentation patterns symmetrically under the trajectory

Left: with a stuck GRAD rocket motor

Right: with mortar shell

And so Forensic Architecture comes into an absurd contradiction when they present a complete picture of the fragmentation pattern in another photo and yet draw a line for their favored trajectory that defies all logic.



[Forensic Architecture](#) *Completed Fragmentation Pattern at Odds with Trajectory*

DETERMINATION OF THE PROBABLE TRAJECTORY

The following photos show clear traces of fragmentation on the side neglected by Bellingcat and Forensic Architecture. This results in a symmetry (angle of impact, trajectory) in almost the angle of the road hit.

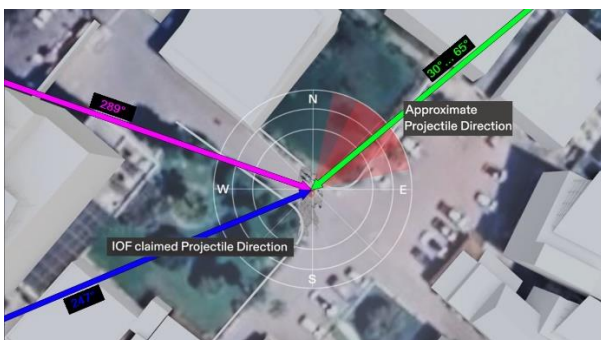


Fragmentation pattern to the left of the flightpath

In addition to the traces on the pavement, there are diagonal impacts of fragments in the outer wall of the church, as well as horizontal impacts at the level of the second floor of houses opposite. In addition, a car thrown onto its roof also appears to show diagonal impact marks of fragments, which, in the original position of the car, mirror the diagonal impact pattern in the church wall.

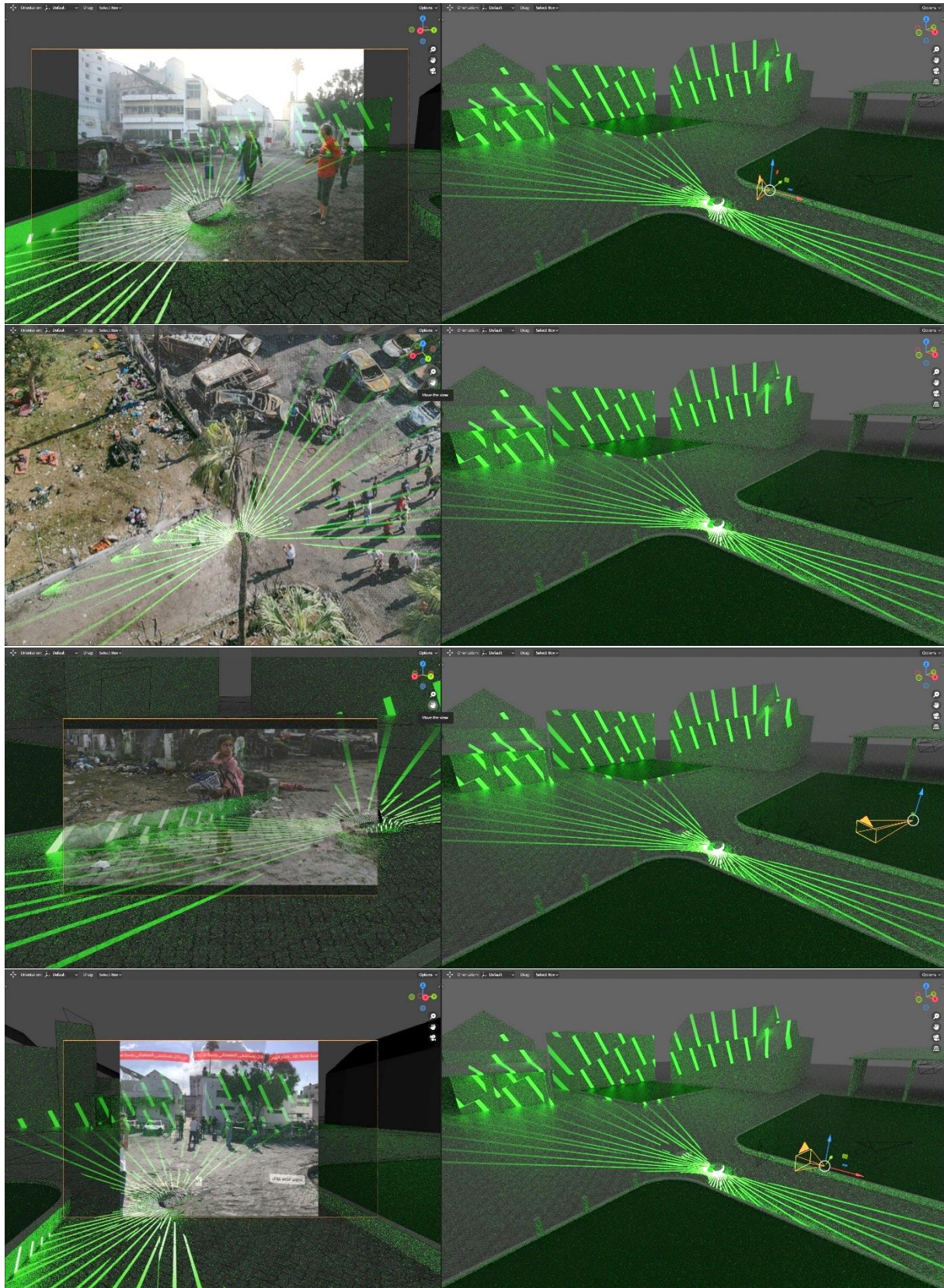


In order to simulate the fragmentation pattern and match it with the photographic evidence, the photos can be overlaid with a 3D model. In this way, the fragmentation pattern can be matched from different perspectives and results in a reliable angle. To simulate the expanding cloud of steel fragments, a "warhead" was simulated, which casts beams of light onto the environment instead of fragments. Three azimuths were studied: green - Forensic Architecture 30°-65° (direction of the exploded Israeli rocket), blue - IDF 247° (direction of flight of Hamas rockets) and the angle, pink - the azimuth, which gave the best match 289°.



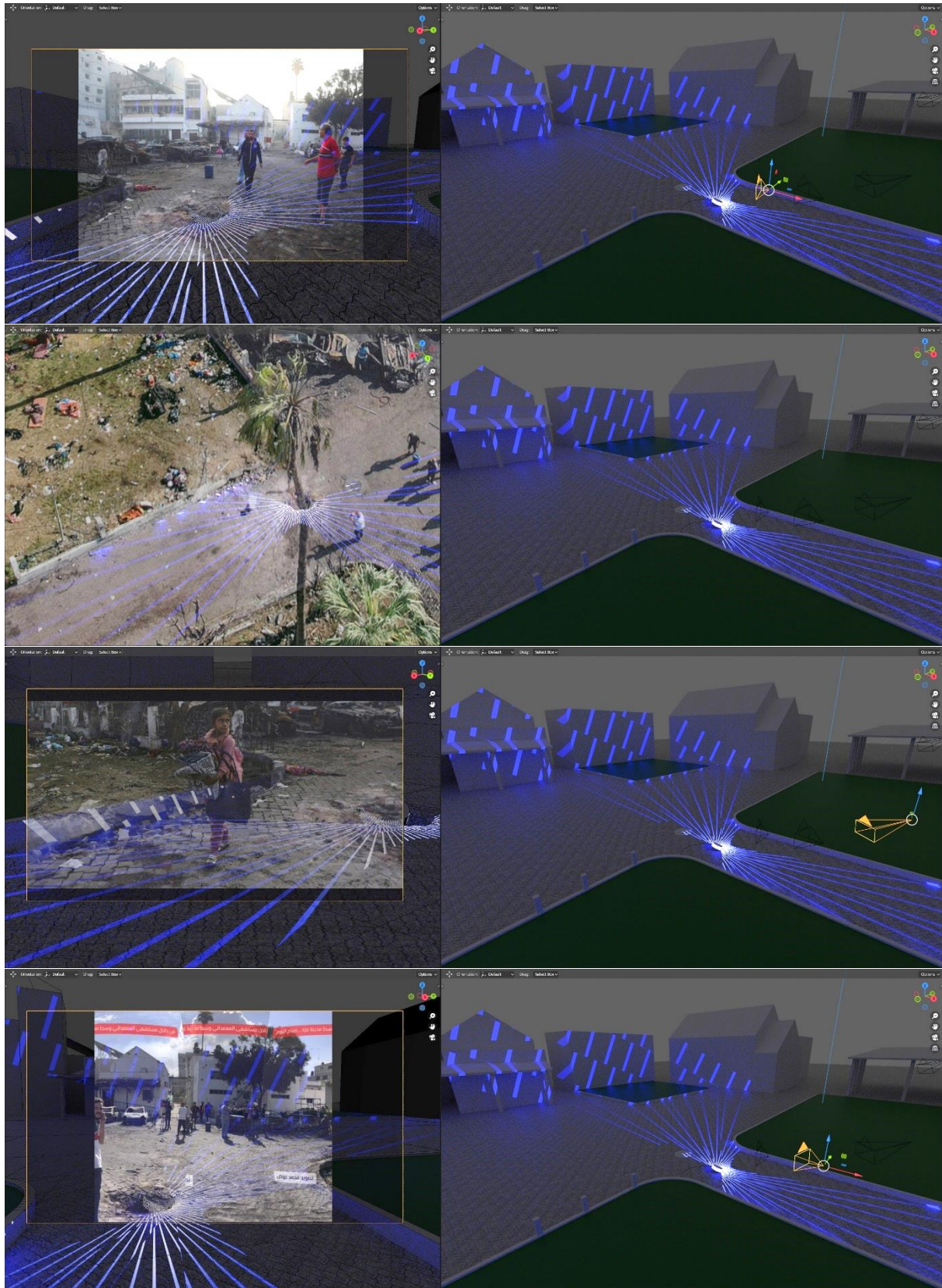
three azimuths examined

Forensic Architecture 30°-65°



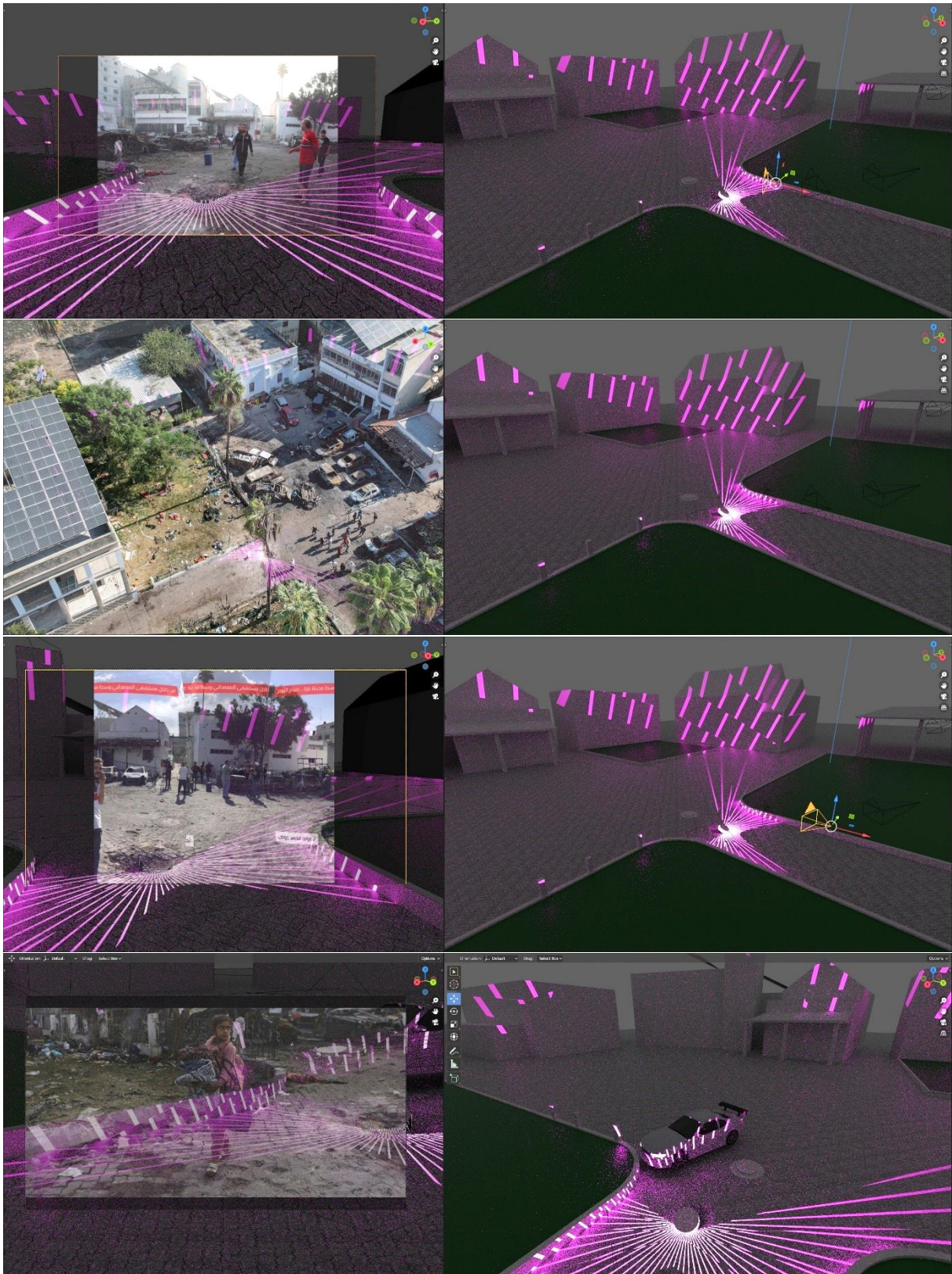
No fragments hit the area, which Forensic Architecture interprets as a forward spray. The diagonal impacts in the church wall are inclined in the wrong direction. Most of the fragments would have torn up the pavement in the direction of the road, where no damage can be seen.

IDF 247°



The right area of the church would not have been hit. On the left side of the road, there would be no fragment tracks pointing towards the corner. The most significant damage would be directed in the direction of the manhole cover. A parked car would have high horizontal but not flat diagonal fragment traces.

Best Match 289°

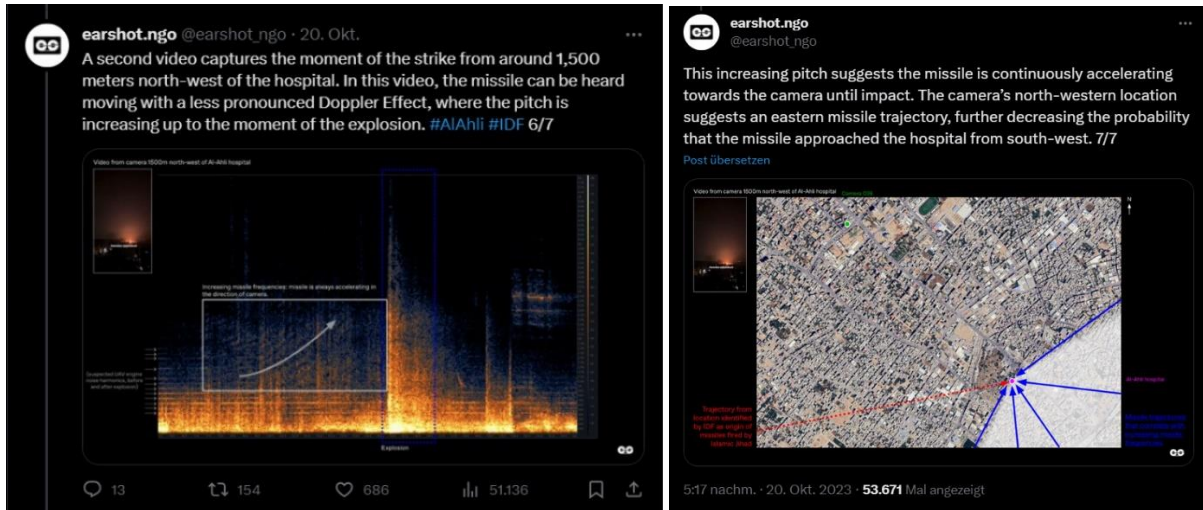


An azimuth of 289° and an elevation angle of about 70° results in an almost perfect match with the fragmentation pattern on the pavement, the surrounding house facades including the car in the presumably original parking position.

DOPPLER EFFECT

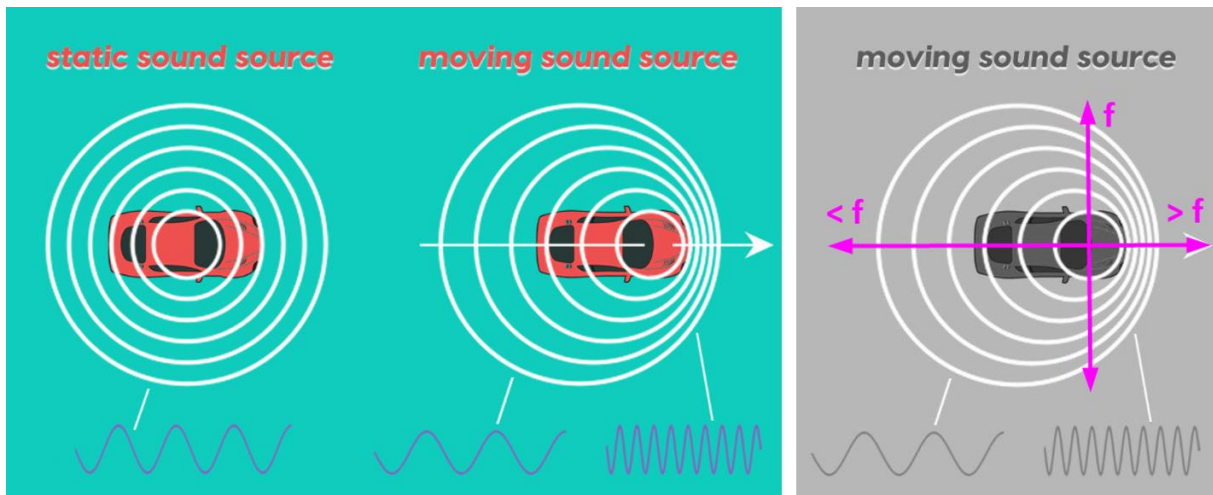
Balcony Video

Forensic Architecture sees the sound analysis of Earshot as a confirmation of the wrong result (falsified fragmentation pattern, interpretation as a forward-directed spray). Earshot identifies a spectral pattern of the rocket, but the conclusion is based on an inadequate understanding of the Doppler effect.



Earshot Tweets for Explanation

In principle, it is correct that a sound source passing through the observer/receiver subjectively changes the pitch, because in a medium with the same speed of sound it compresses the sound waves in front of it and stretches them behind it.



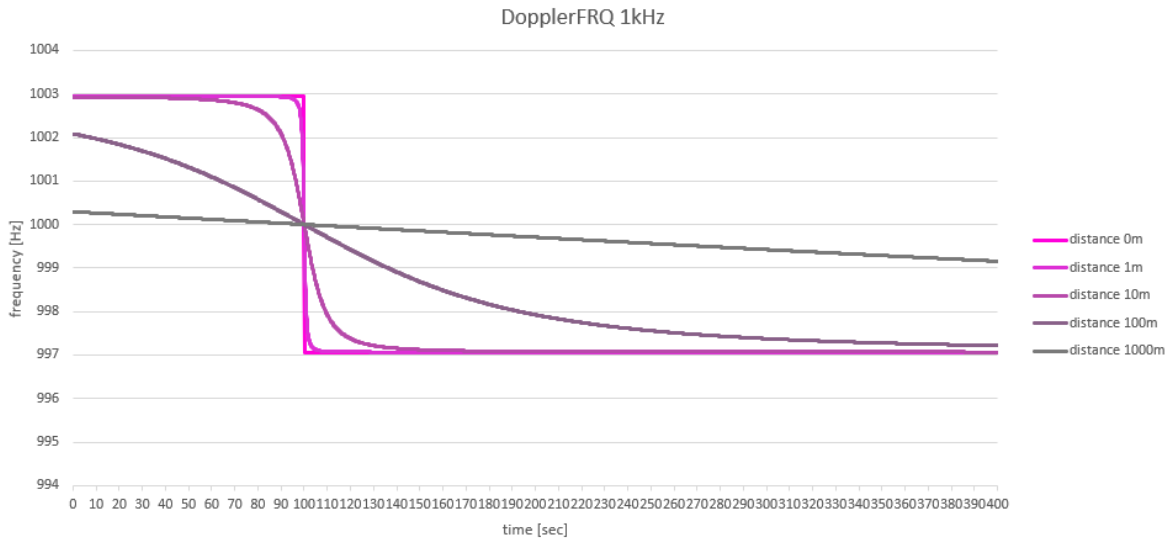
Left: Illustration of the mode of action of the Doppler effect, source: Internet

Right: smooth transition with angle change

However, the Doppler effect is a function of relative velocity and, in the case of a straight trajectory, is determined by the change in angle between the sound source and the receiver. This means that even a vertically falling bomb produces the same Doppler effect as a rocket that passes horizontally.

This angular change is in turn strongly dependent on the distance of the trajectory to the receiver, so the greater the distance, the more the change in pitch becomes more and more fluid.

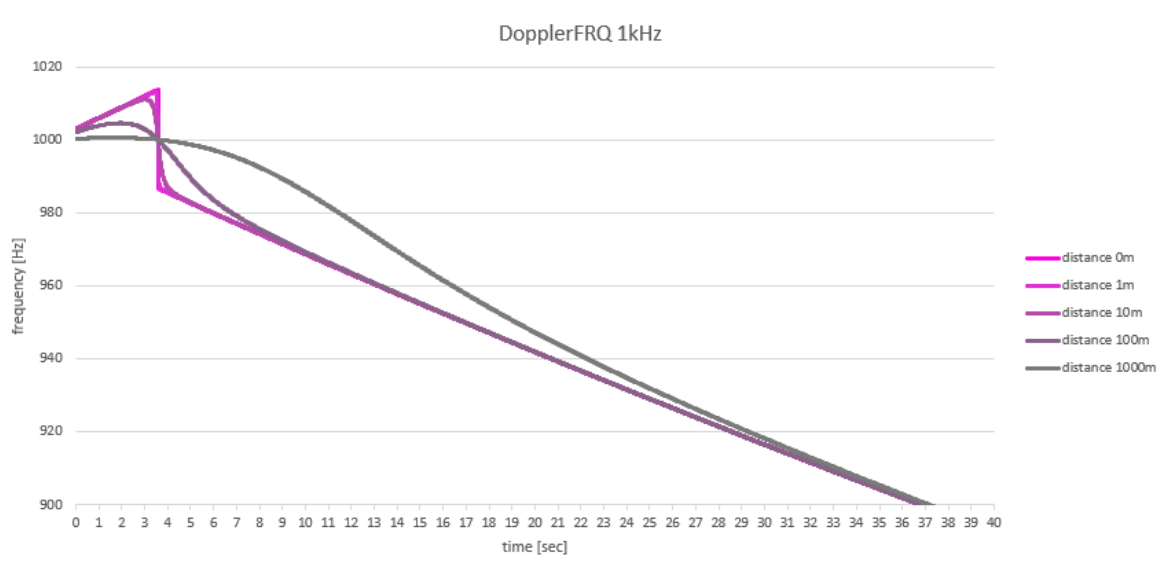
The following diagrams show the change in pitch of a 1kHz source as a function of distance:



Perceived pitch change of a 1kHz source as a function of distance at constant speed

It is important to note that a sudden change in pitch is only perceived in the immediate vicinity. The greater the distance, the smoother the transition, while the perceived pitch drops permanently. The moment the source passes the receiver, the receiver hears the original pitch. All frequencies received before this moment are higher, albeit permanently falling, and all frequencies after that moment are below the original pitch.

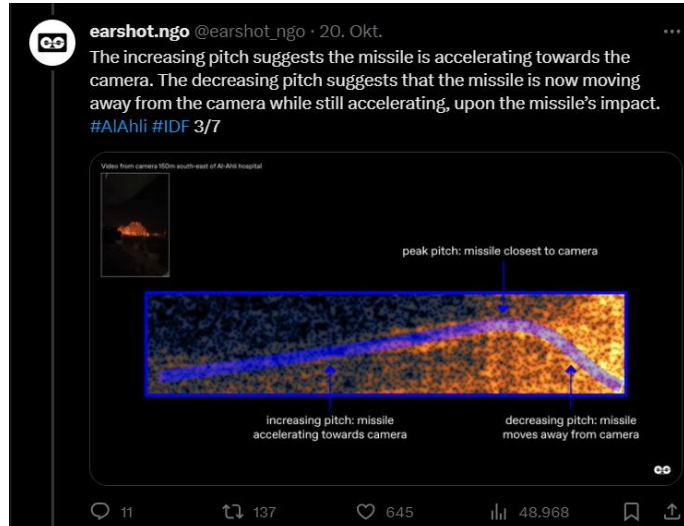
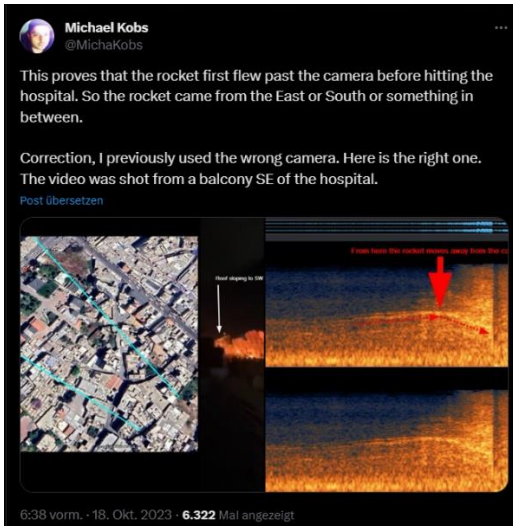
The latter also applies if the sound source is accelerated:



Perceived pitch change of a 1kHz source as a function of the distance at constant acceleration

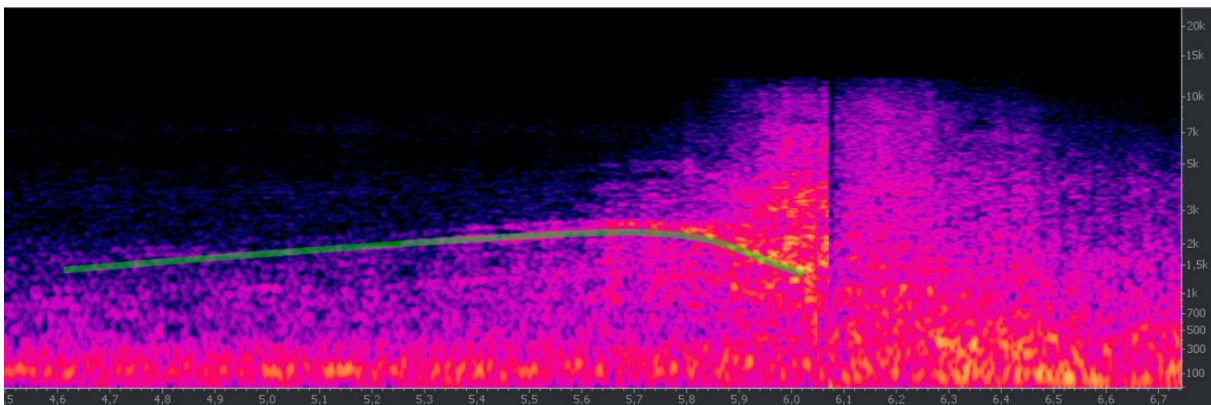
While the rising pitch of an approaching rocket is a reliable indication of acceleration, the change in angle still bends the pitch downwards. And while the acceleration remains almost constant, the angular change gets faster and faster until it dominates the Doppler effect. This means that the pitch of an accelerated rocket or falling bomb also bends downwards before it passes the observer. However, it remains reliable that all frequencies received after passing are lower than all previously received frequencies.

So, the statements made by me and Earshot in the following tweets are only partially correct and the conclusion that the rocket passed the camera is wrong.



Tweets about the Doppler effect by [Michael Kobs](#) and [earshot.ngo](#)

In the audio of the video in question, the missile / bomb can be heard for 1.4 seconds. During this time, the tone rises and bends down in the last 0.3 seconds, approximately to the value that the pitch had at the beginning of those last 1.4 seconds. In addition, it must be assumed that the rocket / bomb was already accelerating before the recorded 1.4 seconds and thus the last visible moment does not represent the return to the emitted pitch.



Spectrogram of a video from Al Ahli Hospital

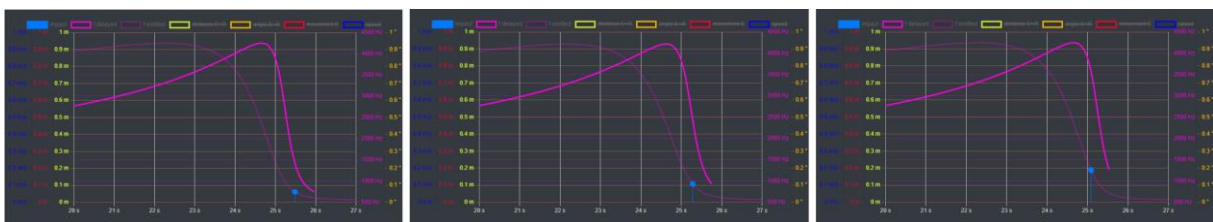
The correct conclusion is therefore that the rocket had the smallest distance to the camera at the moment of impact, and the line of sight to the rocket / bomb formed an angle of almost 90° with the flight path at this moment. However, since the last measurable frequencies are not recognizably below all previously measurable frequencies, the missile/bomb had not passed the camera.

The video was recorded from a balcony with an inclined parapet (31.503549° 34.462436°) 165 meters away from the impact and at a height of 10 to 15 meters. Since there is no other balcony with a sloping parapet in the line of sight, there can be no doubt. And finally, even the white flower pot on the corner of the parapet can be recognized in photos.



Geolocalization of the balcony video 31.503549° 34.462436°

This data can be used to [simulate](#) the Doppler effect. A hypothetical bomb near its terminal velocity of approx. 300m/s and therefore a reduced acceleration of 3m/s² would sound as follows at a distance of 160 meters for all 3 cases:



Simulation of the Doppler effect from camera position, angle of ascent of the trajectory 70°, 90°, 110°

An angle of ascent greater than 90° is inclined away from the camera.

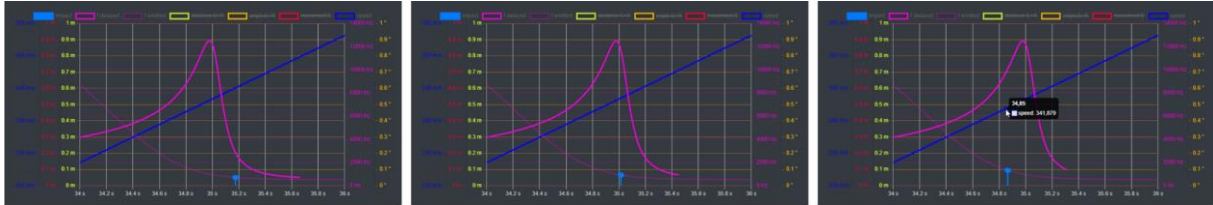
[70° corresponds to the trajectory proposed by Forensic Architecture](#)

[90° corresponds to the trajectory suggested by the IDF](#)

[110° corresponds to the best match with the fragmentation pattern](#)

As the simulation shows, the result is very similar for all 3 cases, with the graph of frequencies reaching the camera with a time delay becoming increasingly shorter as the trajectory is tilted away from the camera. The shape of the frequency curve in the spectrogram is therefore more indicative of a trajectory tilting away from the camera than of an object coming from the direction of the camera.

If we compare the hypothetical case of a bomb falling to the ground from a height of 6000 meters without air resistance, it becomes clear that the acceleration compresses the graph over time and the amplitude of the frequency distortion becomes significantly higher. This bomb would reach approximately the speed of sound on impact, but even in this case the course of the received frequencies suggests that the trajectory was inclined away from the camera in the real case of the balcony video.



Simulation des Doppler-Effekts aus Kameraposition, Anstiegswinkel der Flugbahn 70°, 90°, 110°, ohne Luftwiderstand

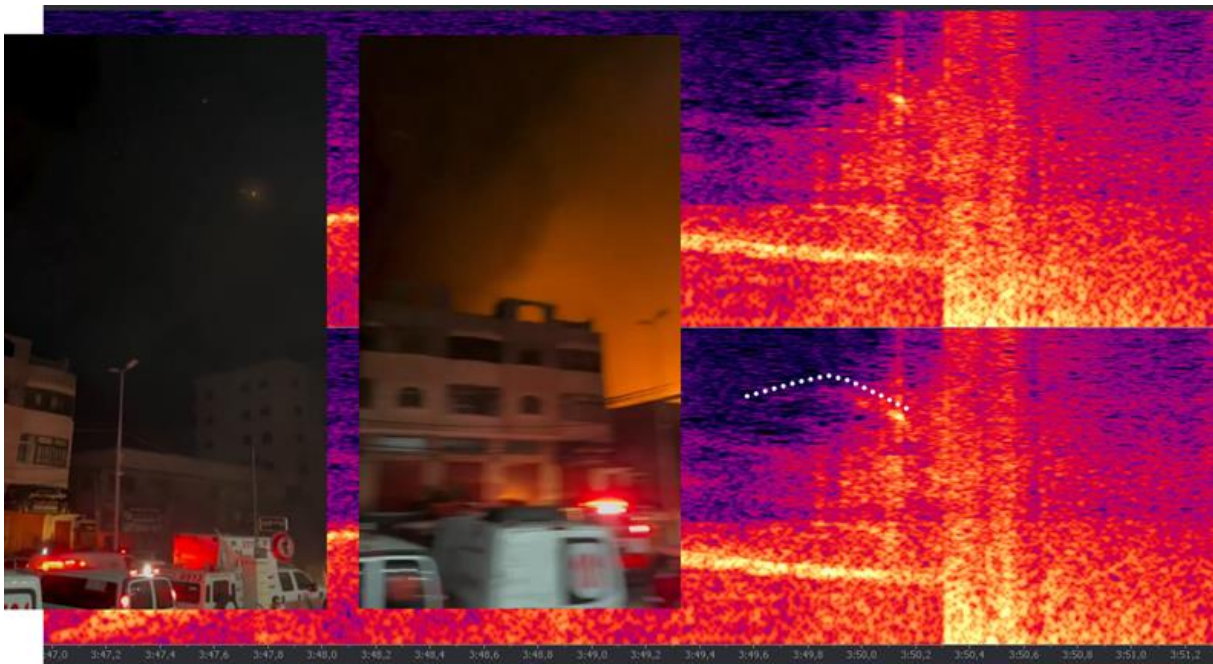
Ein Anstiegswinkel größer als 90° ist von der Kamera weg geneigt.

[70° entspricht der von Forensic Architecture vorgeschlagenen Flugbahn](#)

[90° entspricht der vom IDF vorgeschlagenen Flugbahn](#)

[110° entspricht der besten Übereinstimmung mit dem Fragmentierungsmuster](#)

Finally, it is important to note that a bomb drop near Al Quds Hospital was filmed from a similar distance and shows an almost identical Doppler effect before the explosion. Before this explosion, the camera follows the decoy flares of the fighter plane.



Spectrogram of a [bomb dropped near Al Quds Hospital](#)

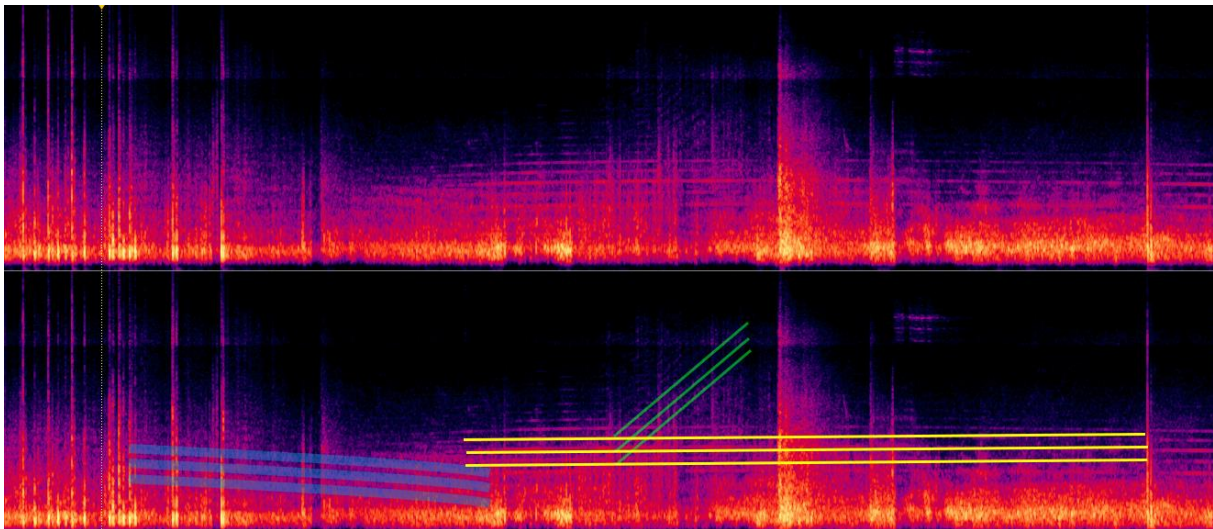
Hamdan El-Dahdouh -Video

This video was shot from the same roof (31.514038° 34.450149°) from which the Al Jazeera live video was recorded. The view to the right towards the barrage of Hamas rockets shows the round corner of the roof.



Geo-location of Hamdan El-Dahdouh video

This video also includes an insightful audio track in which you can hear fighter jets, the hum of a drone, and finally some sound that that Earshot interpreted as the sound of the rocket / bomb before the explosion.

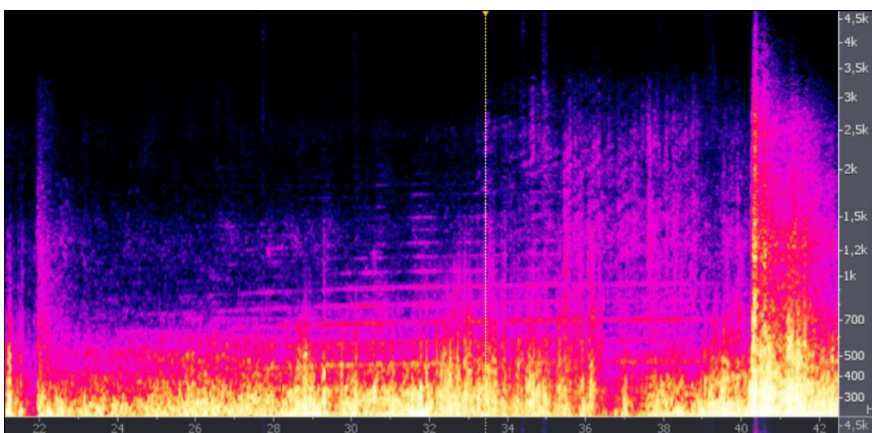


Spectrogram of the Hamdan El-Dahdouh video

Blue: Fighter Aircraft

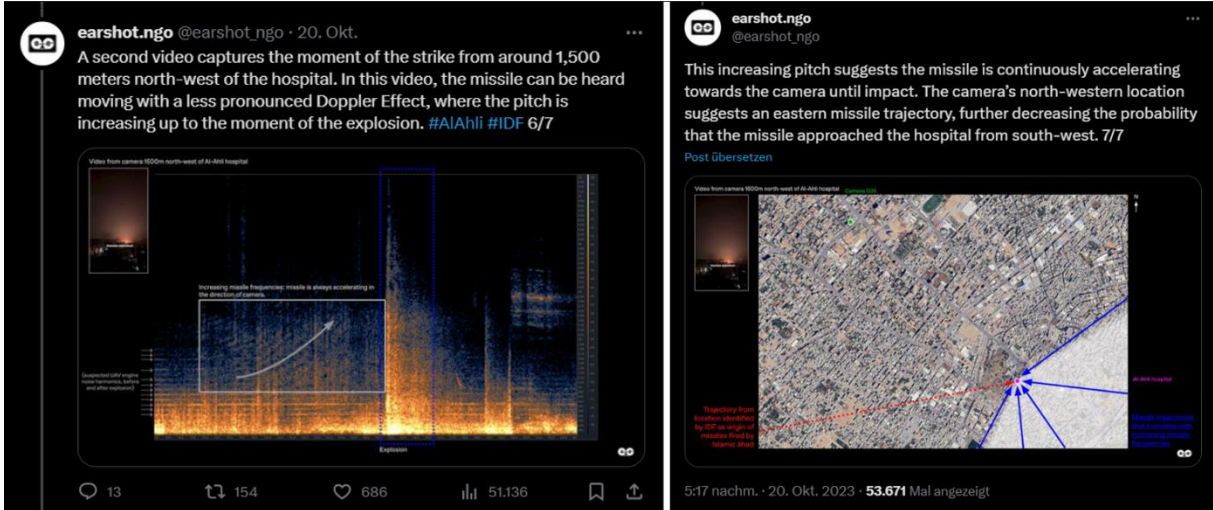
Yellow: Drone

Green: diagonal pattern described as the approach of a rocket



Spectrogram of the Hamdan El-Dahdouh video (enhanced)

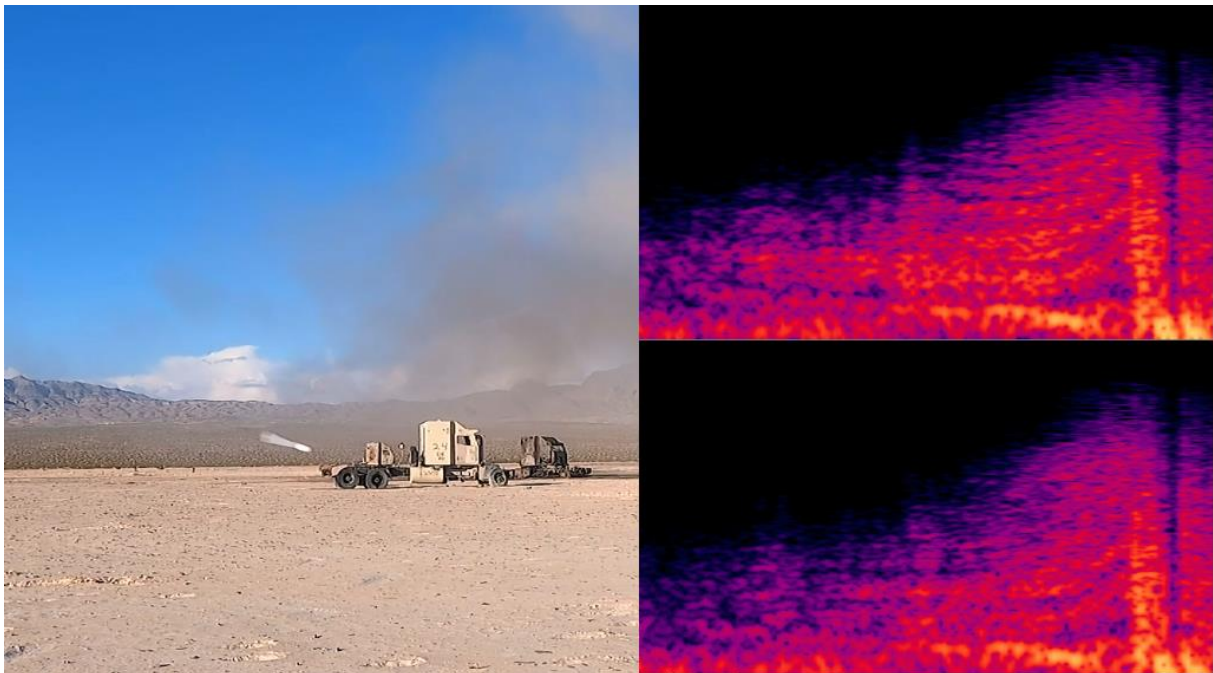
While the fighter jets are clearly audible from second 10 until the end of the video, their pattern is overlaid by the drone's horizontal lines. The sound that might be the sound of the rocket / bomb can be seen from second 31 as diagonally rising stripes. Earshot derives from this pattern a permanent approach and consequently an eastern trajectory, which [Forensic Architecture](#) once again cites as confirmation of the trajectory refuted by the fragmentation pattern.



Tweets Earshot.ngo, [Source 1](#), [Source 2](#)

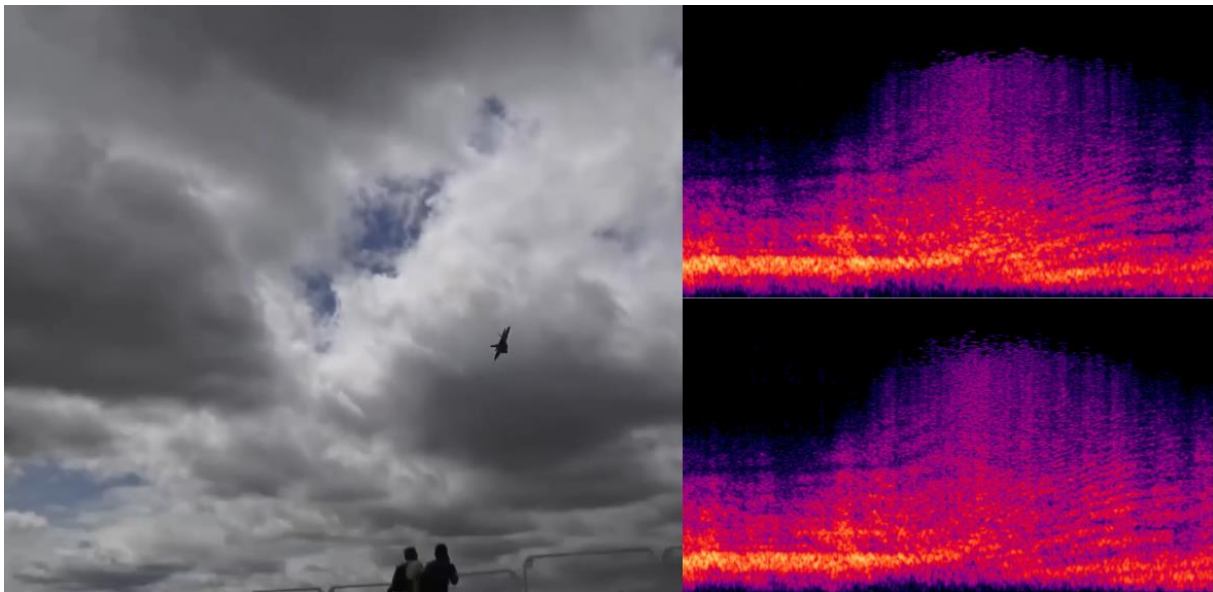
Earshot and Forensic Architecture neglect the fact that even a vertical trajectory fulfills a permanent approach. In addition, there is the fact that the angular change is significantly slower with a distant sound source.

In order to be able to better assess the pattern, it makes sense to use a comparison.



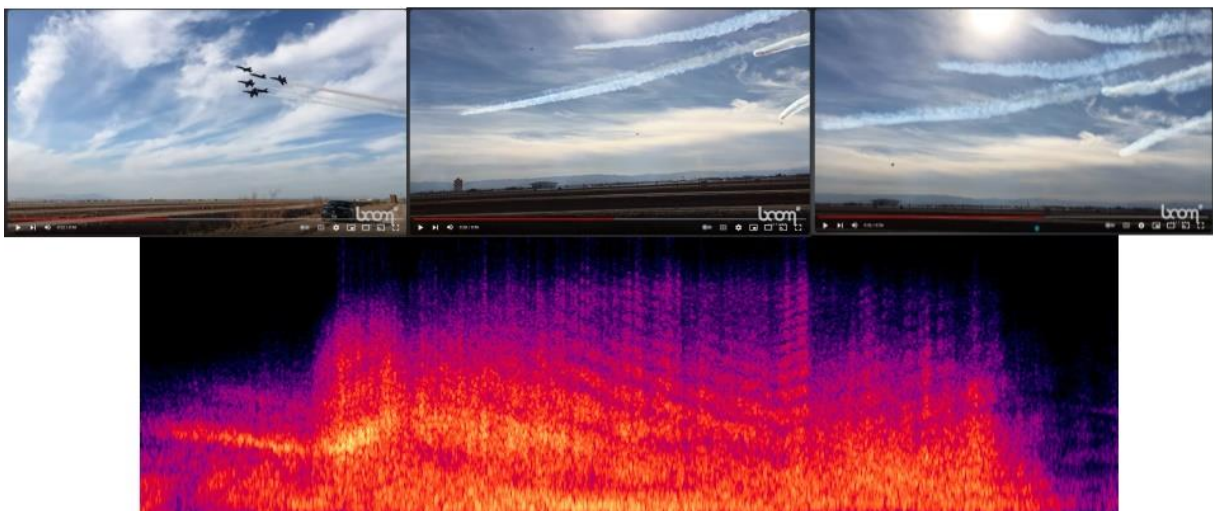
Spectrogram of an [AGM-65 Maverick](#) missile hitting a truck

In the example above, the camera is sideways to the trajectory. Thus, the rocket reaches its shortest distance on impact. Nevertheless, the bass frequencies drop, while all the high frequencies seem to bend upwards. This effect cannot be explained by either the Doppler effect or acceleration.



Spectrogram of an [F-22](#) fighter jet passing overhead

The moment the F-22 flies over the camera, the spectrogram fans out. The pattern suggests an increase in frequencies, although they should fall according to the Doppler effect. Again, this pattern cannot be explained by the Doppler effect or acceleration.

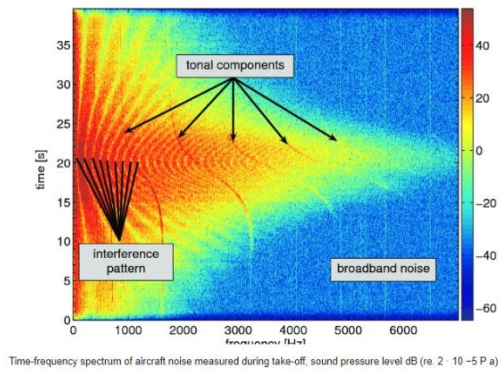


Spectrogram of a group of [fighter jets flying by](#)

The pattern falls on approach, rises as it flies past, then falls and later rises again. Obviously, this pattern also has no plausible explanation in acceleration or Doppler effect.

However, rockets and fighter planes emit a broad spectrum of frequencies that can be described as noise. All the examples shown above are interference patterns that represent amplification and cancellation of certain frequencies. The shift in the pattern is therefore more due to the environment of the microphone and the position of the emitter, i.e. the aircraft or rocket.

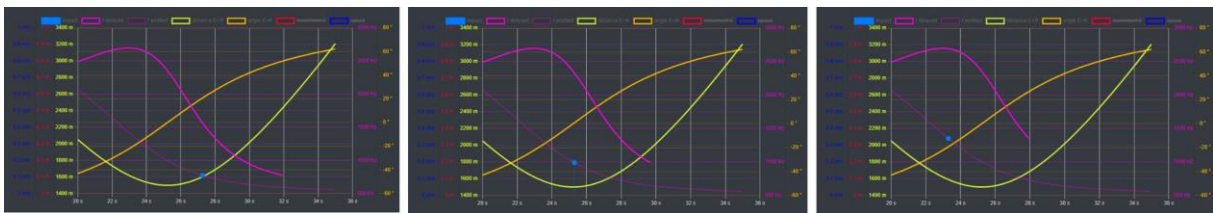
A similar interference pattern is described in a [study](#) that deals with the simulation of aircraft noise during take-off in order to derive design criteria for aircraft.



„The interference pattern ... is due to the fact that the recording microphone isn't positioned at ground level, but at 1.2 m above this level. The time delay between the indirect noise that first reflects on the ground and then impinges on the microphone and the noise which impinges directly on the microphone results in an interference pattern. The time and frequency dependence of the interference pattern can be explained by the reflection characteristics of the ground and the trajectory of the aircraft.“

In other words, the spectral nature of the noise changes with the relative position of the aircraft or rocket. If the spectrum shifts, then the frequencies that reinforce or cancel each other out also shift.

In order to support the obvious assumption that the oblique stripes in the spectrogram are not the Doppler effect of the missile/bomb, it makes sense to simulate the expected Doppler effect from the camera's point of view. The same basic settings as above, which simulate an emitter close to the terminal fall velocity at the relevant fall angles, lead to the following result:



Simulation of the Doppler effect from camera position 31.514038° 34.450149°, elevation angle of the trajectory 70°, 90°, 110°

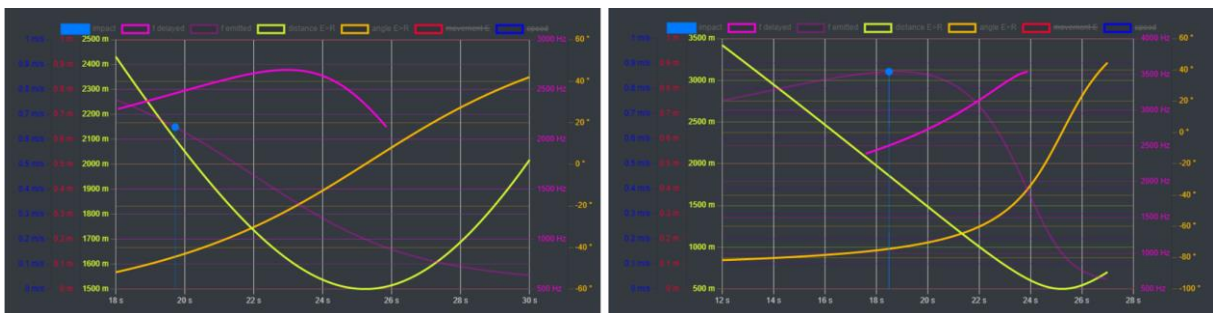
An angle of elevation greater than 90° is tilted away from the camera.

[70° corresponds to the best match with the fragmentation pattern](#)

[90° corresponds to the trajectory suggested by the IDF](#)

[110° corresponds to the trajectory suggested by Forensic Architecture](#)

The bright pink curve shows the frequency trajectory that would reach the camera at a distance of 1500 meters. The end of the curve is the impact. It is unmistakable that none of the cases can produce a straight, rising pattern. Not even an impact angle of 135° (45° opposite the camera) would completely eliminate the falling part of the curve before the impact.



Simulation of the Doppler effect from camera position 31.514038° 34.450149°, angle of ascent of the trajectory [135°](#), [165°](#)

Note: At an angle of 165°, the shortest distance between trajectory and the receiver must be reduced to around 400m because the shallow angle pushes the impact point into the distance.

To create an exclusively ascending pattern, the rocket would have to come from the opposite direction (input 165°) at an angle of 15°. However, this case is sufficiently refuted by the balcony video and the fragmentation pattern.

What is striking, however, is that the high-pitched hissing sound that causes the interference pattern in the Hamdan El-Dahdouh video [stands out from the omnipresent noise of the planes](#) and ends with the explosion. Therefore, it makes sense to attribute this noise to the bomb/missile that caused the explosion.

In this context, it should be noted that the sound of a [Syrian barrel bomb falling vertically](#) creates an almost identical interference pattern.



Syrian barrel bomb

POSITIONING

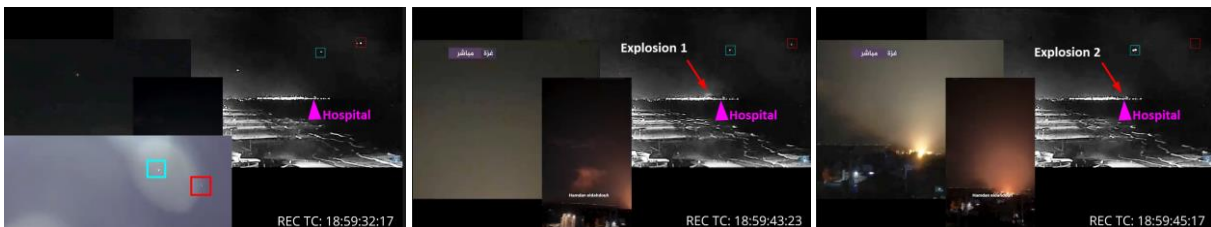
If you observe the movement of the decoy flares, you can see how they move from the coast towards the land, turn and then fly out to sea again.



Overlaid frames of the 54 second version of the [Channel 12 video](#) shows paths of the decoy flares



Flight path during the Channel 12 video up to 14 seconds prior to the explosion in the hospital



Fighter jet over the hospital before the explosions turning north

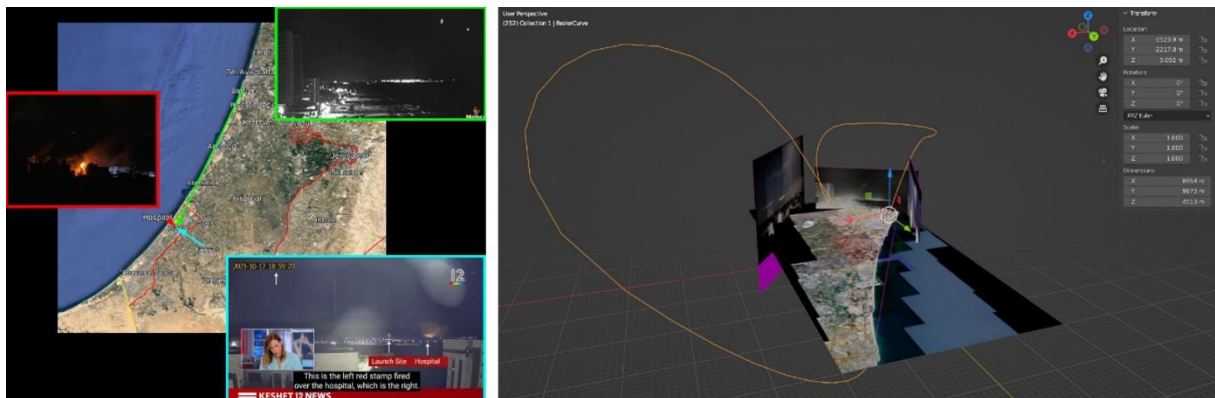
During this turn, there are two explosions on the ground in quick succession. The second explosion is the Al Ahli hospital. In this [video](#), viewpoints from 3 directions are synchronized. It is unmistakable that the plane

marked in blue is flying towards the hospital and changing direction seconds before the explosion. In the screenshot below, the decoy flares are almost exactly above the Al Jazeera / Hamdan El-Dahdouh camera.

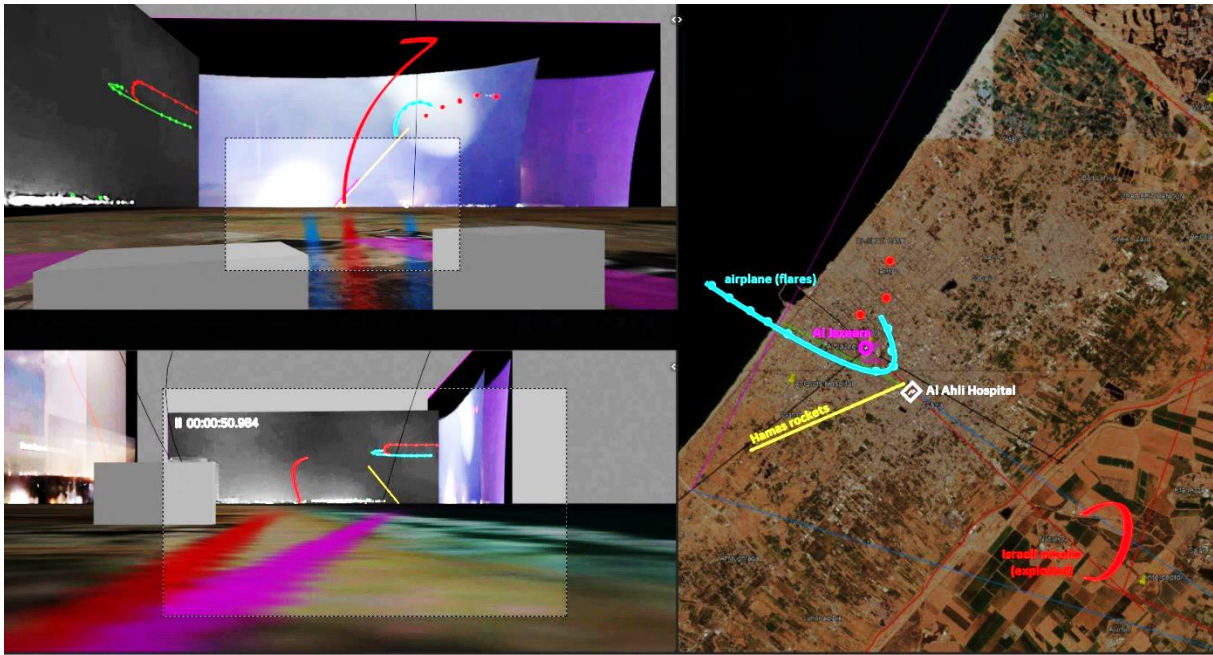


Screenshot: [synchronized videos](#)

In order to determine the positions of the exploded Israeli rocket, the launch spot and flightpath of the Hamas rockets and the movement of the decoy flares, all three angles (Channel 12, Al Jazeera / El-Dahdouh, Ashdod) can be overlaid from the exact camera position. If a point in 3D space coincides with all 3 viewing directions, then that point corresponds to the correct position in space over the map of Gaza.

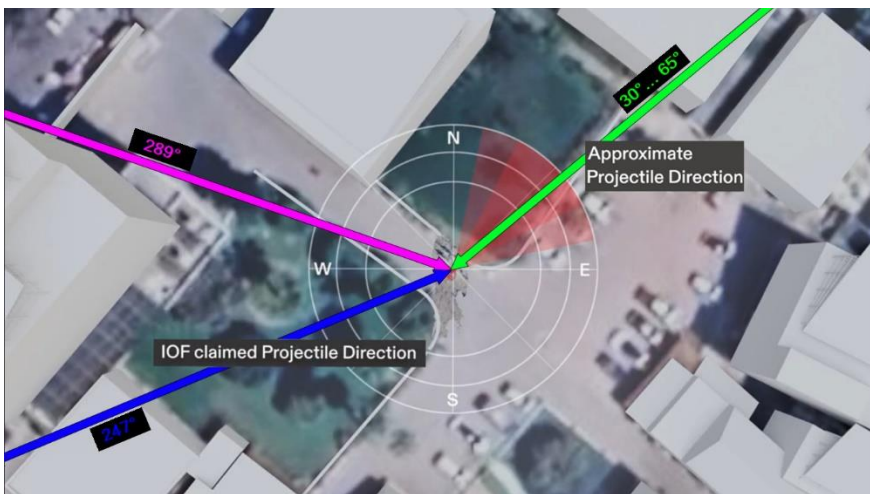


3D model for triangulation of the relevant positions



Triangulation of flares, Hamas rockets and the exploded Israeli rocket

With the positioning of the elements in space, it becomes clear that the trajectory of the aircraft marked in blue overlaps with the previously determined trajectory of the rocket / bomb that exploded in the hospital.



Previously discussed trajectories, of which only 289° (pink) matches the fragmentation pattern.

The flight path also confirms the interference pattern in the spectrogram of the Hamdan El-Dahdouh video. The targeted approach to the position of the hospital and the turn a few seconds before the explosion indicate a maneuver that is consistent with the intention to bomb the hospital.

At the same time, all other possibilities can be ruled out. The Israeli missile exploded too far away and does not match any possible trajectory. The Hamas barrage had already passed the hospital before the Israeli rocket exploded and the trajectory suggested by the IDF does not match the fragmentation pattern either.

TYPE OF WEAPON

Early reports, such as the Turkish weapons expert [Engin Yiğit \(archived\)](#), assumed a bomb with a proximity fuse due to the immense fireball, the powerful blast wave, the absence of a correspondingly large crater and car roofs crushed from above.

The shallow fragmentation marks contradict this theory, as the explosion unmistakably occurred when it hit the ground.

In addition, cars in the immediate vicinity of the impact show clear traces of a pressure wave that hit these cars sideways. The already mentioned car (see below), which also shows diagonal impacts of fragments, was pushed sideways and transported by the blast wave for a few meters, where it remained turned on its roof.



Nearby cars were hit sideways by the blast wave



Effect of Shock Wave and Fragments on Distant Buildings

The number of crushed car roofs in the Al Ahli hospital, which are extremely rare in burnt-out cars and only occur as a direct result of rollovers, can very probably be attributed to the shape of the cars.



Streamlined shape of the cars compressed shock wave

This means that a pressure wave that passes over the streamlined shape of the car is simultaneously compressed in a vertical direction, which changes the direction of the acting force. The force acting vertically

on the car roof is then higher than the force of the pressure wave that hit the car head-on. This force is very likely responsible for the buckled car roofs shown above.

Another effect of the weapon was a fireball about 50 meters in diameter, which generated enough heat to immediately set fire to cars and the crowns of surrounding palm trees.



Burning Palm Crown

The weapon used thus combines a flat, wide fragment cloud with a powerful fireball and blast wave. However, there is no crater due to the explosion effect, which speaks against a conventional HE explosive.

The small crater essentially consists only of the hole into which the remaining debris of the rocket/bomb has hit, which could now be several meters deep in the ground, depending on the ground conditions. This also explains why the Palestinian police were unable to produce any conclusive debris.

Some people suggested a GBU-39 as a probable weapon.



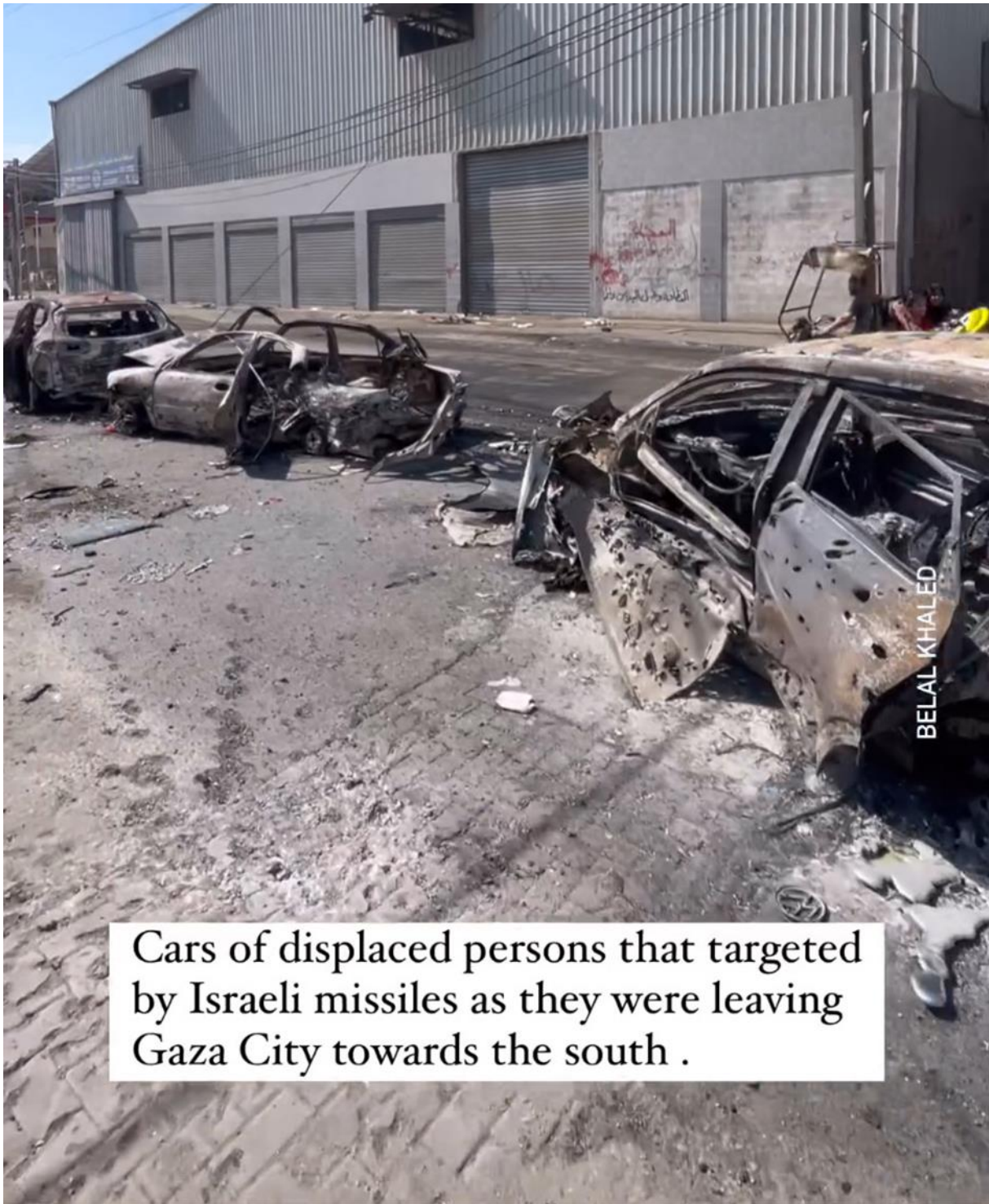
GBU-39, source: Al Jazeera

Destruction pattern of a Boeing "[small diameter bomb](#)":



Screenshots from a demonstration video

At around the same time as the attack on Al Ahli Hospital, a video of the aftermath of an Israeli Air Force attack on a refugee convoy was shared on social media. The fragmentation pattern and the destruction of the nearby cars is very similar to the destruction at Al Ahli hospital.

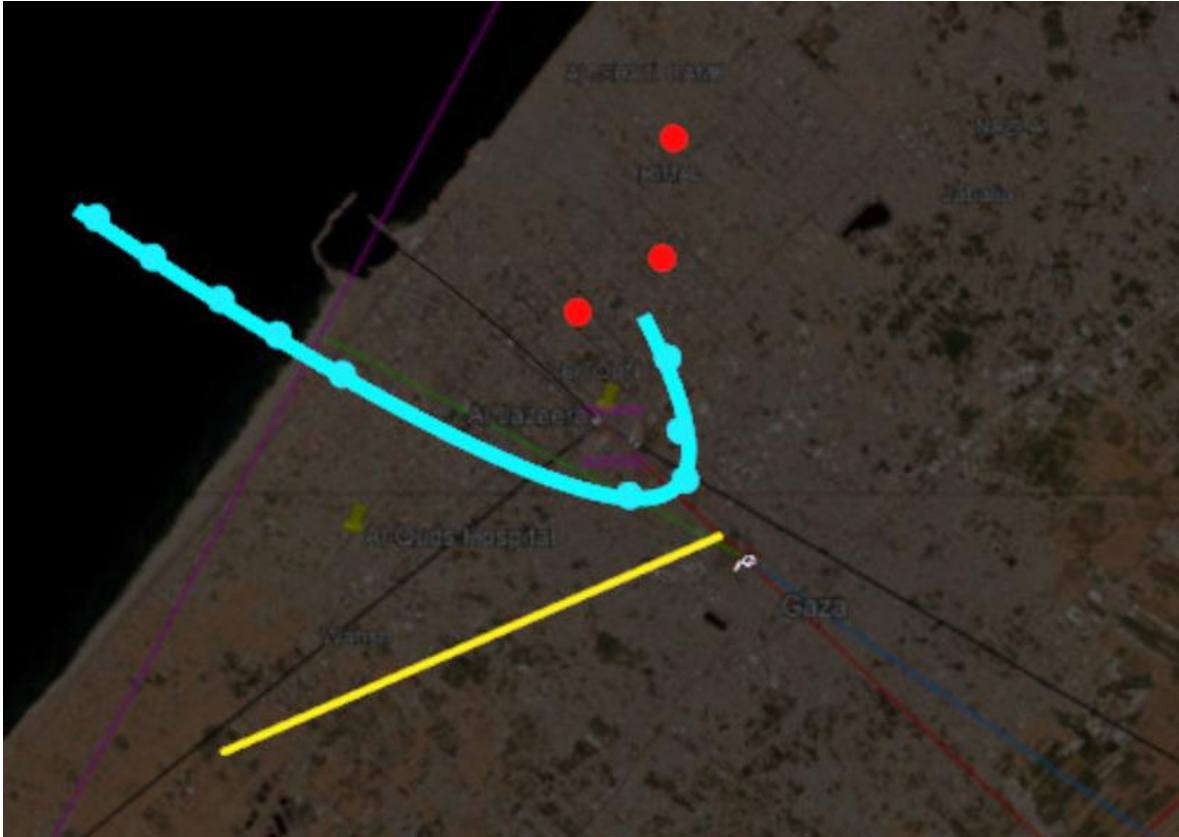


Cars of displaced persons that targeted by Israeli missiles as they were leaving Gaza City towards the south .

Screenshot of a video of the [aftermath of an Israeli air force attack on a refugee convoy](#)
Different view of the [aftermath](#)

TYPE OF AIRCRAFT

The initial suspicion that the aircrafts over Gaza City could be helicopters has not been confirmed. We mapped the trajectory in two different ways (see [here](#) and [here](#)). In both methods, we achieved an average speed of 190 – 230 m/s during the approximately 4.5 km straight approach to the hospital. That's more than twice the maximum speed of an Apache helicopter, so it's safe to assume fighter jets like the F-16. These fighter jets moved at an altitude of about 6000 meters.



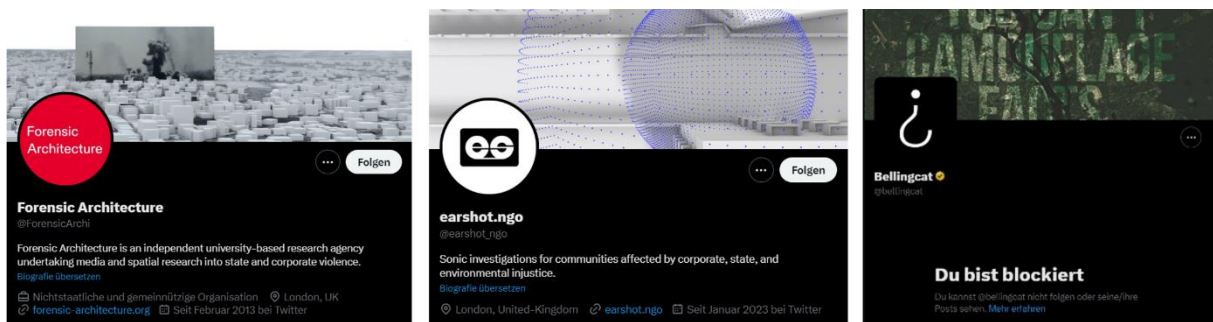
Flight path of the attacking aircraft (blue)

CONCLUSION

All the evidence, from the fragmentation pattern at the impact site to the Doppler effect and the flight maneuver of the fighter jet in question, clearly points to a deliberate attack by the Israeli Air Force. It is impossible that the Israeli military leadership was neither informed about the deployment of the military aircraft nor about the attack in particular.

However, this finding also casts a disturbing light on Israel's war propaganda, the role of the media worldwide and in particular the role of alleged experts who, against their better judgment or out of amateurish ignorance, falsify the data in order to present it in a way that suits a propaganda narrative.

It is striking that these mainly London-based "experts" repeatedly work together to either only partially take data and facts into account or downright falsify them.



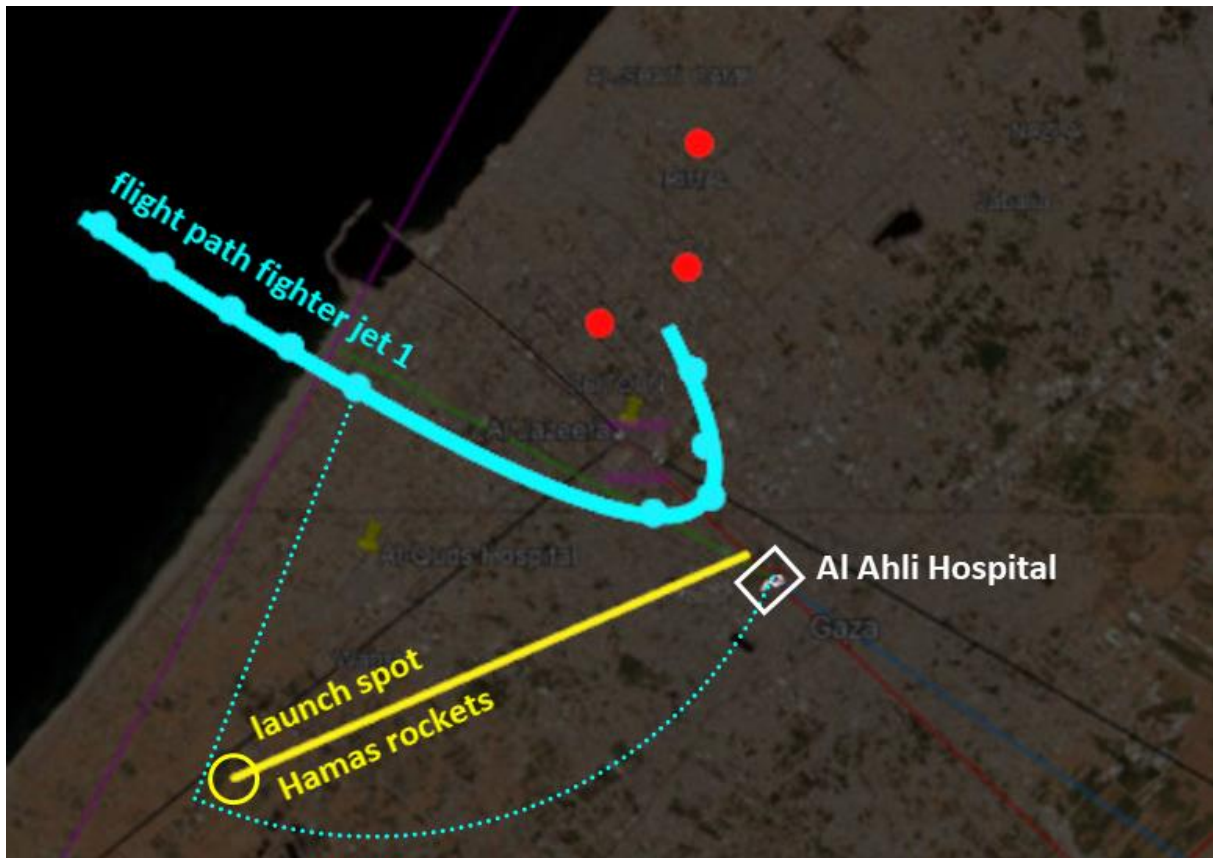
Bogus experts involved in the misinterpretation or falsification of the evidence of the Al-Ahli Hospital attack

The 19:59 video published by Channel 12 confirms that these air force attacks lasted for hours, with each approach accompanied by explosions on the ground. The position and flight pattern of the fighter jets also prove that these planes could easily see the Hamas rocket launch pads and could have attacked and destroyed them.



Position of the warplanes at the time of the barrage of Hamas rockets

No explosion was registered or filmed near the launch pads. No flight maneuver was initiated to respond to the barrage. Instead, the attack on the hospital continued unperturbed.



Hamas launch pad within range of fighter jets

Barring outright incompetence, the failure to even attempt to engage Hamas' rocket launch spots can only be interpreted to mean that these rocket barrages were wanted and condoned as the perfect pretext for a massive military operation against the entire Gaza Strip.

The fact that a warplane flies close to the rockets' trajectory and bombs a hospital full of civilians indicates that the Israeli Air Force was fully aware of the trajectory and Hamas' ability to respond to airstrikes.

ABOUT THIS STUDY

Michael Kobs is an engineer and film director with 19 years of experience in the field of open source intelligence. This work is completely independent and has only been supported by the know-how of a broad online community, which combines expertise in many relevant areas.

The online discussion of the individual facts can be traced on [X](#). Additional source material and videos can be found [here](#).

This [video](#) briefly explains the most important aspects of this analysis.

APPENDIX 1

The Human Rights Watch – Report

[Human Rights Watch has published an article on the bombing of Al Ahli Baptist Hospital](#)

In the very first line, HRW writes "Evidence Points to Misfired Rocket". They thus place the culprit in the first line but are subsequently unable to support this assertion with facts.

HRW: **"The explosion that killed and injured many civilians at al-Ahli Arab Hospital in Gaza on October 17, 2023, resulted from an apparent rocket-propelled munition, such as those commonly used by Palestinian armed groups, that hit the hospital grounds..."**

The word "apparent" explains that HRW is more committed to a principle of faith than to relying on the available evidence. But let's keep in mind that HRW believes in a rocket engine for some reason.

By way of explanation, HRW writes:

HRW: **"However, the sound preceding the explosion, the fireball that accompanied it, the size of the resulting crater, the type of splatter adjoining it, and the type and pattern of fragmentation visible around the crater are all consistent with the impact of a rocket."**

Evidence available to Human Rights Watch makes the possibility of a large air-dropped bomb, such as those Israel has used extensively in Gaza, highly unlikely."

What HRW writes here is misleading. Strictly speaking, the impact at Al Ahli Hospital is largely consistent with a fragmentation warhead. Whether this was fired as a missile or artillery or dropped as a bomb is not readily apparent from the crater. In the second sentence, however, HRW rules out a large bomb such as the GUB-31, which Israel uses to bring down entire houses.



The bomb used by Israel to flatten entire building blocks.

HRW thus follows the argumentation of the Israeli military, which claimed in a statement that Israel cannot be responsible for the deaths in Al Ahli Hospital because Israeli bombs generally leave craters of 9 to 19 meters - an argumentation that is obviously absurd.

HRW: **„Human Rights Watch found that a rocket such as the larger types fired by Palestinian armed groups could inflict a high number of casualties if it struck with some of its propellant remaining in a courtyard packed with people and flammable materials. All hospitals in northern Gaza, including al-Ahli, had received general orders to evacuate on October 13 and the days that followed."**

The fuel for a Hamas Qassam rocket is made from a mixture of sugar and potassium nitrate. Sugar contains a lot of energy, but it is released slowly. The potassium nitrate provides the oxygen for combustion. The mixture can propel a rocket due to the gases released but does not explode and does not produce gigantic fireballs.



[Burning rocket fuel](#) from sugar and potassium nitrate

In addition, a Qassam rocket has an average burn time of 5 seconds. As the Netivok videos show, the rocket engines had burned out before they flew over the hospital. Consequently, no video shows burning rocket engines flying over the hospital. Even if a rocket engine had gone out and thus hit the hospital with some remaining fuel, it would be impossible to blame this remnant for a fireball about 50 meters in diameter.

Thus, the rocket fuel theory suggested by HRW is also unrealistic, counter-factual and therefore false.

Strangely, this theory is linked in the same paragraph with the reference that all hospitals had received "general orders" to evacuate. Aren't these very "general orders" and the stated intention to attack hospitals a war crime with an announcement that Human Rights Watch should be concerned about, instead of using these "general orders" as an excuse for highly dubious technical hypotheses? Obviously HRW themselves know that their rocket fuel theory is wrong, otherwise they wouldn't need to make excuses for Israel's actions.

HRW: „Analysis of videos shows that a barrage of Palestinian rockets was launched from a location approximately five kilometers southwest of the al-Ahli hospital toward the northeast 43 seconds before the explosion at the hospital. Human Rights Watch is unable to confirm whether the barrage of rockets fired by an unidentified Palestinian armed group and visible on videos flew, or not, over the hospital: the rockets are only visible for the first seconds after their launch as bright dots, and their subsequent flight path through the night sky cannot be established with precision.”

This paragraph says everything about the technical incomprehension of the Human Rights Watch - Investigative Unit. The Qassam missiles are simple ballistic missiles. This means that the first 5 seconds of the firing process and acceleration, which are visible from afar, do indeed determine the trajectory of the

missiles. From the triangulation of the Netivot video and the Ashdod video, it can be seen that the barrage flew over Gaza City only a few meters west of the hospital.

It is noteworthy that HRW mentions in this paragraph that this barrage took off about 5 kilometers away and 43 seconds before the explosion. Although the exact speed of a Qassam missile is not known, it was described in 2014 by the head of the Iron Dome project at Rafael Advanced Defense Systems Ltd. as a [wobbly can of Coke at supersonic speed](#). In other words, the Barrage flew at least 14 kilometers in these 43 seconds, which is nearly the range of a Qassam 2 and three times the distance of the hospital.

To have traveled such a short distance for such a long time, the rocket would have had to climb almost vertically and use up all its fuel. It would then have hit the hospital just as vertically and without fuel. None of this can be confirmed by the available evidence and appears to be a very unlikely scenario.

To be precise, the barrage mentioned by HRW ended at 18:59:18, 25 seconds before the explosion in the hospital. This means that the last missile of this barrage had passed the hospital by at least 2.5 kilometers. Since Qassam 3 has a much longer range despite its short burning time, it must also fly much faster than the 2014 wobbly can of Coke.

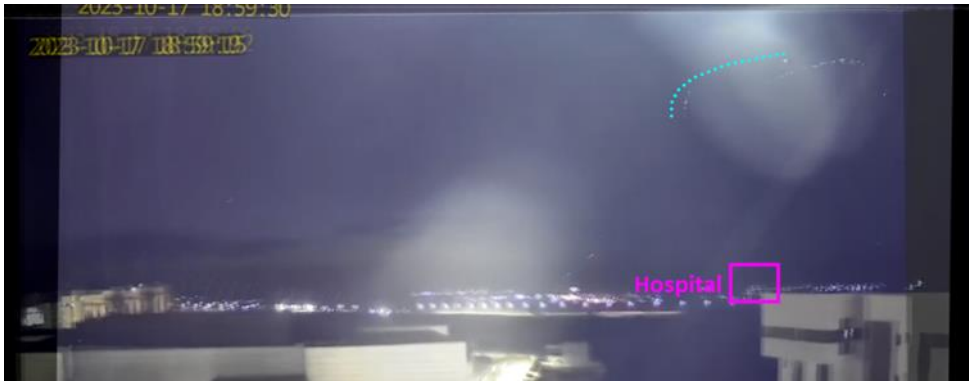
HRW: “Three sets of countermeasures are visible: two roughly 32 seconds before the explosion, and another in the few seconds preceding and following the explosion. While this confirms that Israeli jets were nearby at the time of the strike, Human Rights Watch found no evidence that points to them being responsible for launching the munition that hit the hospital grounds.”

Clearly HRW had a lack of commitment to reviewing the visual evidence. If you overlay the video frames of the Channel 12 video, you can clearly see more than three decoy flares, which allow the trajectory of the jets to be traced.

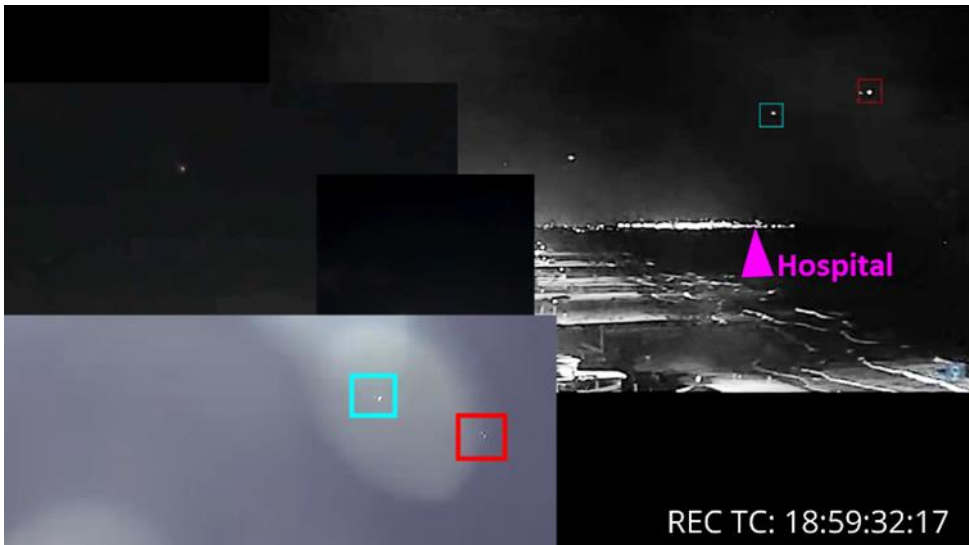


Trajectories of the decoy flares of two fighter planes during the 54 seconds of the [Channel 12 video](#)

The last frame of the Channel 12 video was recorded at 18:59:32. At this time, the jet had turned north from the sea and had just passed the hospital. 11 seconds later, Explosion 1 occurs just a few meters east of the hospital and another 3 seconds later Explosion 2 occurs at Al Ahli Hospital.



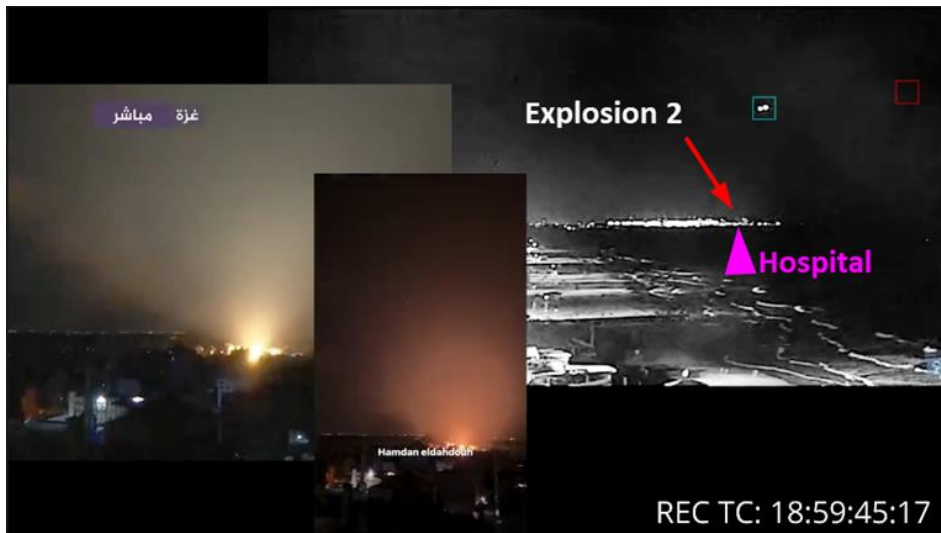
Trajectory of the blue-marked jet during the Channel 12 video



Last frame of the Channel 12 video, the fighter jet is almost exactly above the hospital



11 seconds later, explosion 1 below the trajectory



Another 3 seconds later, explosion at Al Ahli hospital

To recognize a connection to the barrage of Hamas rockets but not to state a connection to the fighter jets can only be interpreted as a deliberate distortion. If nothing indicates, as HRW claims, that these fighter jets were responsible for the attack, what indicates that an invisible, too-slow, burned-out Hamas rocket full of non-explosive fuel could be responsible?

HRW: „In one video, verified and geolocated by Human Rights Watch and filmed 160 meters from the hospital in the instant before and during the main explosion, the sound characteristic of a munition propelled by a motor, such as a rocket or a missile, can be heard. This sound is not consistent with artillery shells or air-dropped bombs. The video shows a large fireball that accompanied the explosion, which is consistent with the ignition of rocket propellant and perhaps other fuel burning.“

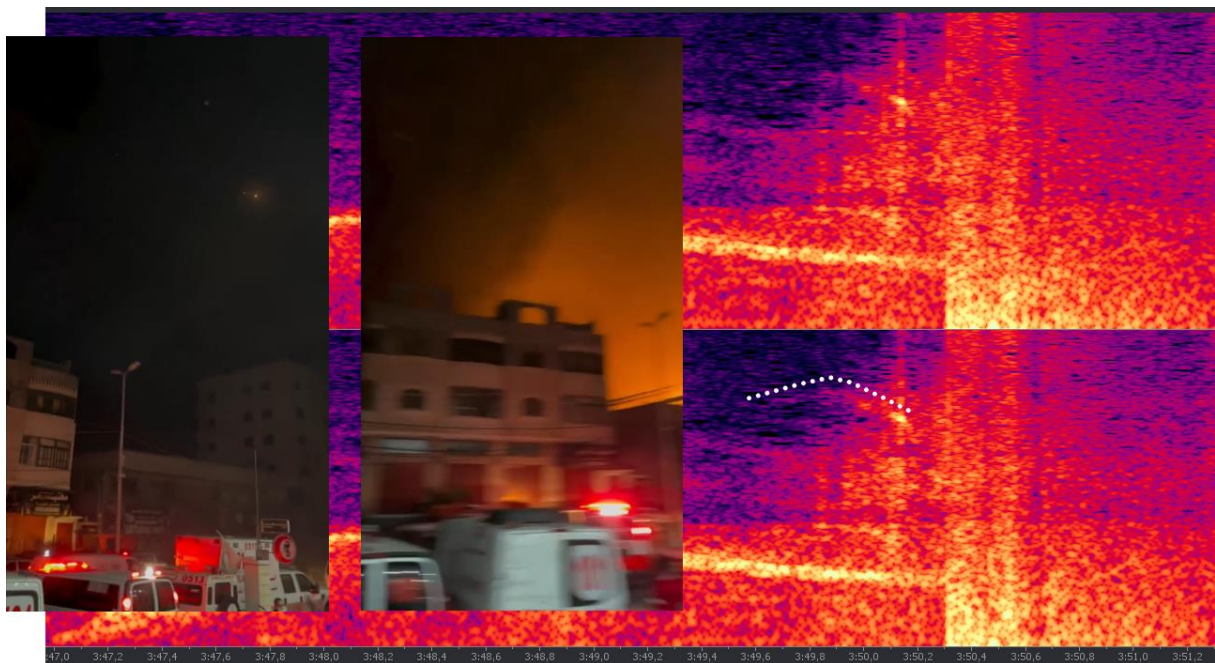
Here HRW refers to the balcony video, whose audible Doppler effect has already been misinterpreted by Earshot and Forensic Architecture. HRW now believes it recognizes a typical sound for a rocket propelled by a motor. How they recognize this, they do not write. The fact is that this claim completely contradicts the theory of a Hamas rocket full of fuel, because it would have burned out long ago.

Here we have an Israeli air strike with an almost identical sound and spectrogram:



<https://www.youtube.com/watch?v=NUEjmv6VDrM>

Another almost identical example is the airstrike by Israeli fighter jets, which was recorded from the steps of Al Quds hospital about 2 days after the Al Ahli Hospital attack: The same decoy flares, an identical sound, a huge explosion.



<https://t.me/alahliahospitalattack/43>

And to anticipate it right away, the fall of a Syrian barrel bomb without an engine produces almost the same interference pattern as the one left by the Al Ahli bomb in the soundtrack of the El-Dahdouh video.



<https://www.youtube.com/watch?v=afbnjlyzQsg>

So, what is the basis for HRW's claim that it must be a motorized missile - recognizable by the sound? Is it because the sound is not consistent with the bomb seen and heard from Al Quds hospital? Is HRW

simply claiming that it is inconsistent to once again exclude the fighter jets from the circle of suspects, while they are de facto the only suspects?

HRW: „ The fragmentation pattern around the crater – the damage that flying parts and debris caused to surrounding surfaces during the explosion – appears to be natural fragmentation from the body of the munition. The fragmentation pattern lacks uniform patterns caused by common air-defense missiles or other munitions that have warheads that contain pre-formed fragmentation, such as variants of Hellfire or Spike guided missiles frequently used by the Israeli military.“

Even with this assertion, it remains unclear where HRW gets its claim from. Crater and fragmentation pattern are clearly recognizable if you want to see them. And this fragmentation pattern is in every way consistent with a fragmentation warhead like that of a GRAD missile or mortar shell.



Fragmentation pattern GRAD missile, fragmentation pattern Al Ahli hospital

The diagonal impacts of fragments in the church wall also give a clear picture of a fragmentation warhead, as they can hardly be regarded as the random result of chaotic fragmentation of the outer shell.



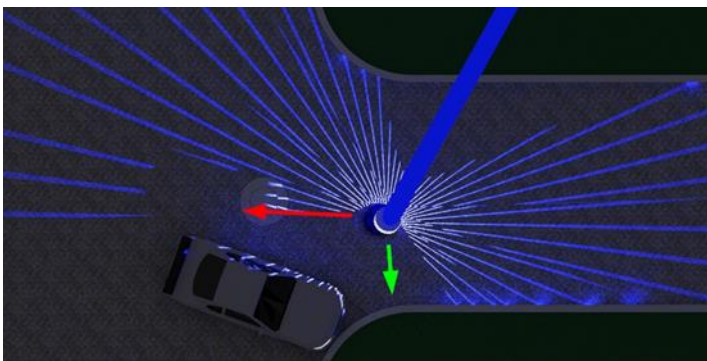
Diagonal fragmentation pattern across the church wall

HRW logically chooses a photo of the crater that shows only half of the fragmentation pattern, after several relief workers had spread sand and concrete dust to the left of the flight path.



Difficult to recognize fragmentation pattern to the left of the trajectory

At the azimuth suggested by the IDF, which HRW claims to be the result of their "analysis", the fragment spray would point in the direction of the manhole cover, where it has been proven that no fragments damaged the paving stones. Instead, we see fragments impacting the second floor of the opposite buildings.

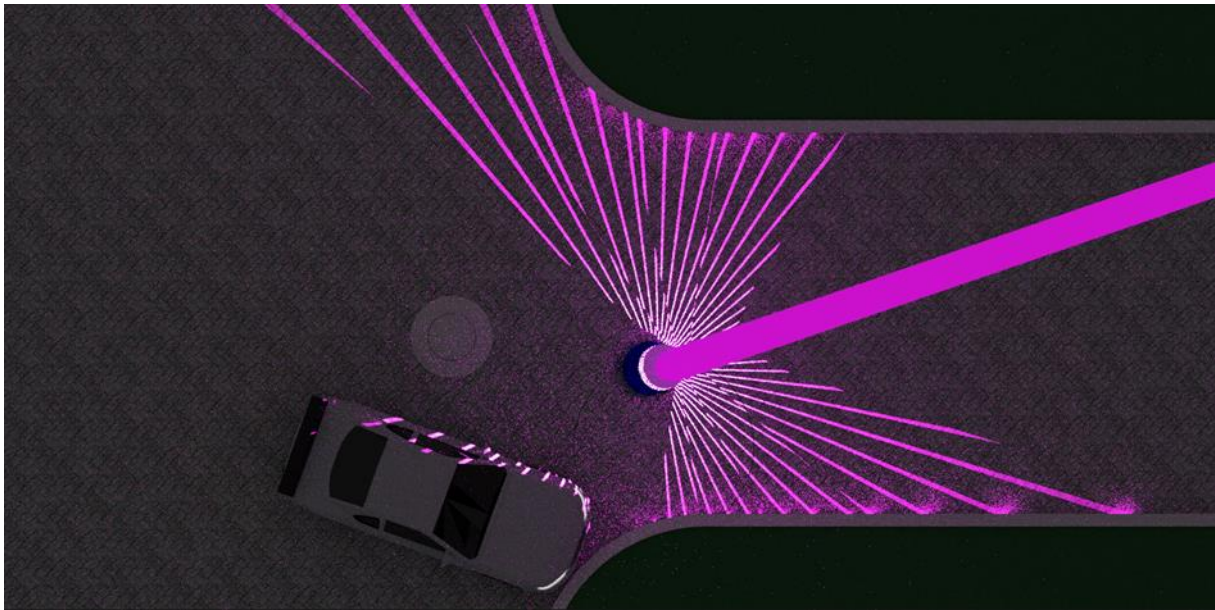


IDF (HRW) angle does not match the fragmentation pattern



No traces of fragments in the red area, clear traces of fragments in the green area

An azimuth of 289° and an elevation angle of 70° are fully consistent with the actual fragmentation tracks in the hospital.



Best match for azimuth 289° and ascent angle 70°

The crude way in which HRW throws all evidence to the wind and simply claims otherwise, without providing a shred of evidence to support their theories, can only be seen as an active distortion of the facts to serve a desired outcome.

HRW cannot justify

- why the sound of the bomb/missile in the balcony video is indicative of a motor-powered missile.
- How a supersonic missile with a 5 second burn time could reach the hospital with more than 40 seconds delay and without completely consuming the fuel.
- How a relatively small amount of non-explosive fuel could generate a 50m fireball.
- Why the fragmentation pattern does not match conventional fragmentation warheads.
- Why an obviously incorrect azimuth is given priority while a result that is consistent in every respect is discarded without explanation.
- What makes 14 seconds of flight time at the predictable position of the warplanes unpredictable when the last position, direction and speed are known and furthermore a video shows no unexpected behavior.
- Why the further course of the flight path is relevant, especially since a bomb or missile was dropped while the plane was still seen by two cameras.
- What moves them to suspect an invisible Hamas missile of which they could not even determine the trajectory.

In the rest of the text, HRW also tries hard to negate or play down any Israeli responsibility. For example, HRW calls the previous rocket fire on October 14 a "remnant of an artillery shell" even if their linked source writes about a rocket attack. Apparently HRW wants to suggest that the hospital had only been damaged by accident. And, of course, they cast doubt on the official casualty figures.

Overall, then, one cannot help but get the impression that Human Rights Watch is keeping its eyes tightly shut in the face of this grave war crime so as not to be confronted with the implications of the actual sufficiency of the evidence. In this case, they are most likely protecting the perpetrators.

APPENDIX 2

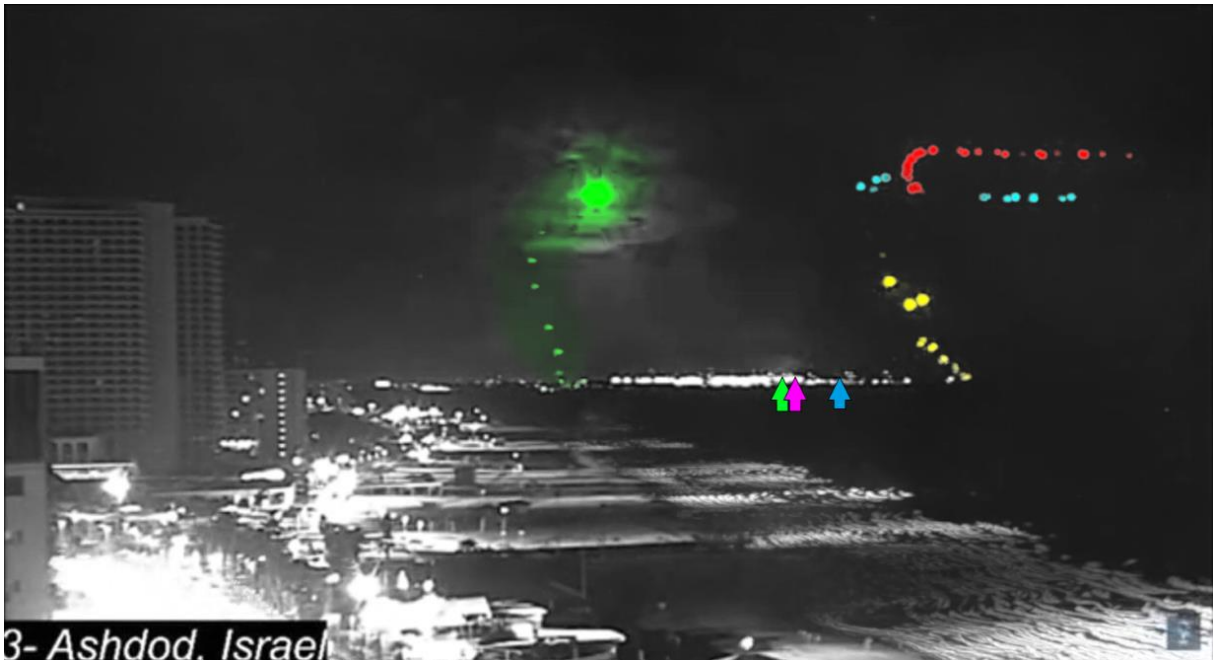
Preceding explosions and aircraft movements

In the videos from Channel 12 in Netivot, the live cam in Ashdod and the Al Jazeera / El-Dahdouh videos, two explosions can be seen on the ground preceding the explosion at Al Ahli Hospital.



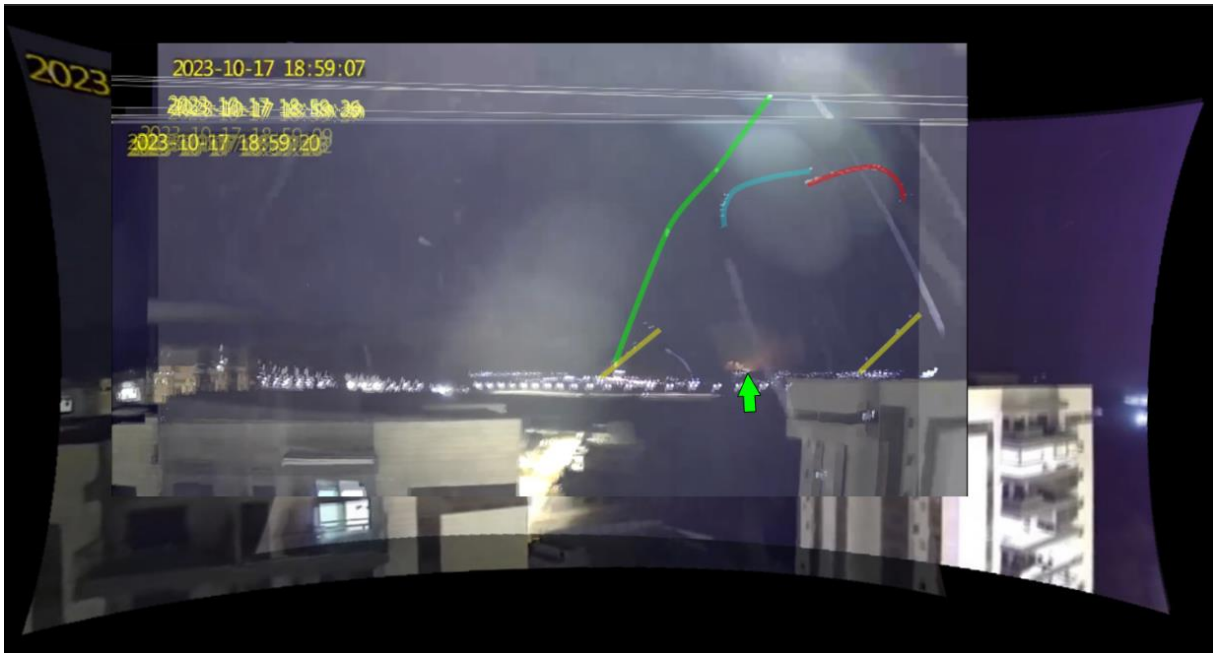
Explosions on the ground at 18:59:20, 18:59:43, 18:59:45

These videos also make it possible to reconstruct the flight path of the two visible aircraft.



3- Ashdod, Israel
Ashdod City Cam, mapping of all light sources in the available time period
Red - fighter plane 1 (flying from left/east to right/west)
Light blue - Fighter plane 2 (flying from right/west to left/east)
Yellow - Hamas and Palestinian Jihad barracks (in line behind each other)
Green - Israeli rocket
Arrow green - explosion at 18:59:20
Arrow pink - explosion at 18:59:43
Blue arrow - explosion at 18:59:45

Channel 12 published a longer version of the video footage with a slight delay, which also only goes up to 18:59:33 in the longer version. It therefore only shows the first of the three explosions (green arrow), which they marked as "Hospital" in the TV program.



Channel 12, Netivok,

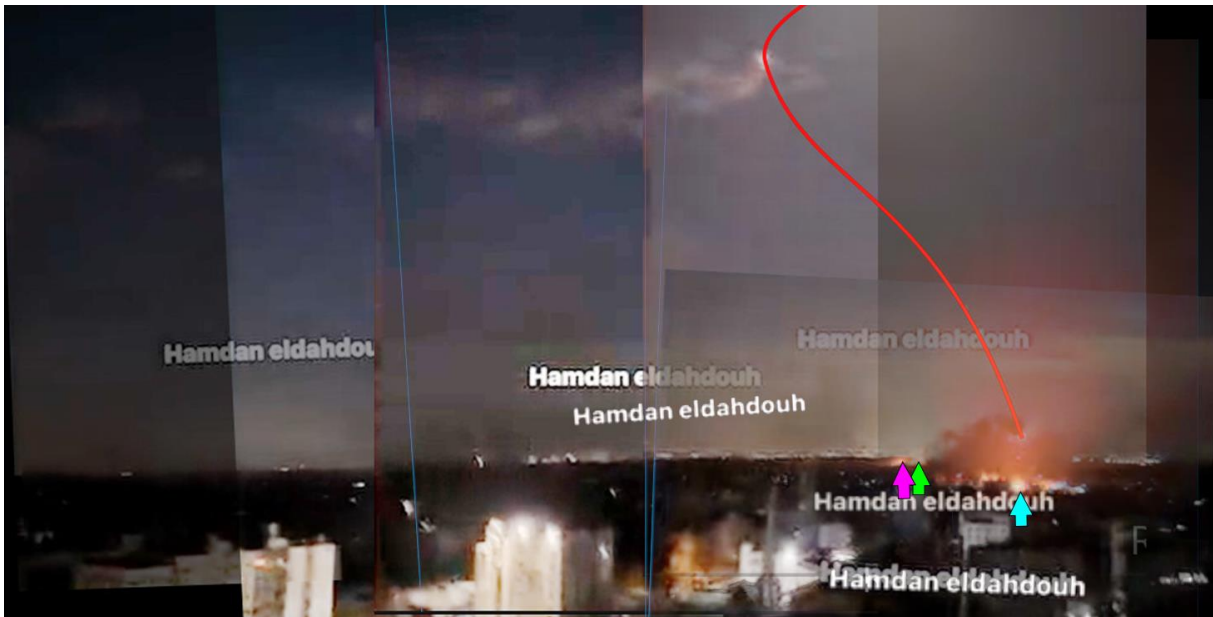
Red – Fighter jet 1 (flies from left/east to right/west)

Light blue - Fighter jet 2 (flying from right/west to left/east)

Yellow - Hamas and Palestinian Jihad barrages

Green - trajectory of the Israeli missile

Green arrow - explosion at 18:59:20



Hamdan El-Dahdouh,

Red - trajectory of the Israeli missile

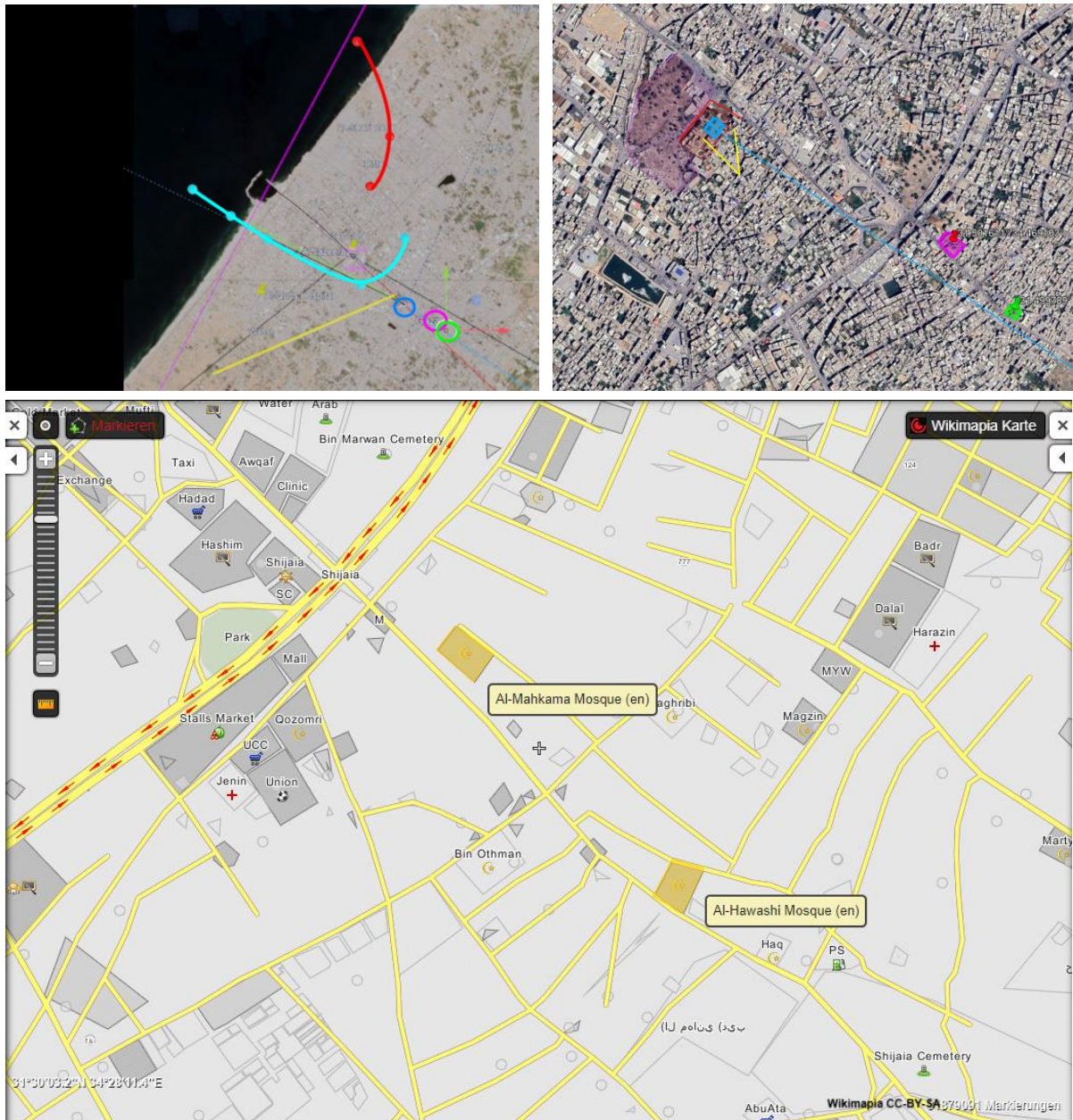
Arrow green - Explosion at 18:59:20

Arrow pink - Explosion at 18:59:43

Blue arrow - explosion at 18:59:45

Triangulation of the three angles shows that the first explosion occurred near 31.499789° 34.471043° (green) and the second explosion near 31.501611° 34.469103° (pink). As can be seen, all three explosion locations lie in a line on the extended flight path of the fighter jet marked in blue. However, it can be

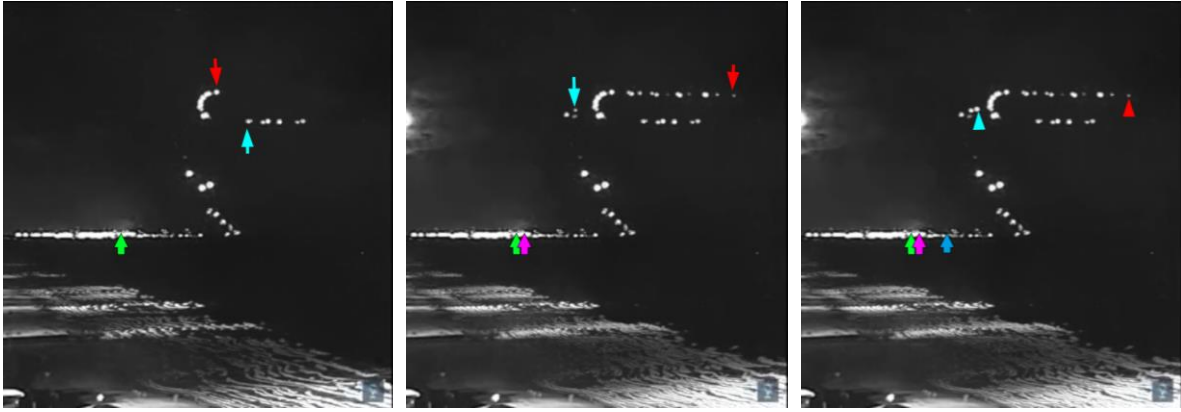
assumed that the fighter jet marked in red also flew to Gaza City on this route beforehand. According to [Wikimapia](#), there are mosques along Baghdad Street at both locations.



Explosion locations relative to the trajectories
green - explosion at 18:59:20 (Al-Mahkama Mosque)
pink - explosion at 18:59:43 (Al-Hawashi Mosque)
blue - explosion at 18:59:45 (Al Ahli Hospital)

It is reasonable to assume that three inoperative rockets did not fail to work almost simultaneously and hit along a road within seconds, so that the explosion sites were only coincidentally on the extended flight path of the fighter jets, which were only there for no purpose.

In addition, the first explosion occurred when the first fighter jet (red) had just flown over the easternmost point of its 180° turning maneuver. Explosions two and three occurred when the second fighter jet (blue) had just passed the easternmost point of its 180° turning maneuver. There is therefore an obvious temporal connection between the aircraft maneuvers and the explosions on the ground.



green - Explosion 18:59:20 (Al-Mahkama Mosque) – during turning maneuver jet 1 (red)
pink - explosion at 18:59:43 (Al-Hawashi Mosque) – during turning maneuver jet 2 (blue)
blue - explosion at 18:59:45 (Al Ahli Hospital) – during turning maneuver jet 2 (blue)

After these three explosions, the two fighter jets did not fire any more flares until the end of the known video footage. They went dark. Presumably they had left the zone of possible resistance at this point.

Three explosions, which are in line with the flight path of the fighter jets and correlate with the maneuvers of the same fighter jets, cannot possibly be described as coincidence or technical failure of three rockets. The probability that all these correlations occurred by chance, while the fighter jets were not serving any recognizable purpose, is infinitesimally small and can be considered impossible.