

The Aristarch plateau, with a size of roughly 170 x 200 kilometers, is diamond-shaped structure and one of the most extraordinary lunar regions. It is a raised structure, sometimes with a height of up to 1.5 kilometers above the surrounding lava of Oceanus Procellarum. It lies there like an island. The plateau is clearly of volcanic origin, the entire surface is covered with a 30 to 50 centimeter high layer of pyroclastic ash. To this day the origin of the Aristarchus Plateau is poorly understood and lost in the mists of lunar history.

Aristarchus is 40 kilometers in diameter. It is the brightest and one of the youngest craters of the lunar front with an estimated age of "only" 175 million years. It is surrounded by a very asymmetric and extremely bright ray system and the crater walls show a pronounced streaky structure between light and dark material.

De Gasparis is a crater with a 30 km diameter, which is located directly on the western edge of Mare Humorum. In the center of the crater two rille systems - **De Gasparis** and **Palmieri** - intersect with each other. Coming from the north **Rima Mersenius** is ending. Similar intersections of rilles can be also observed in the crater Palmieri.

Hansteen (45km), **Mons Hansteen** (31km) and **Billy** (46km). Hansteen and Billy are of approximately the same size but different in structure. Billy has a crater floor flooded with very dark lava while Hansteen is probably a "Floor Fractured crater". It is also located very close to the edge of Mare Procellarum.

Mons Hansteen is like the **Agatharchides Plateau** an intrusive, volcanic land uplift. The rock material of Mons Hansteen contains much more silicon than the lava around and comes from a greater depth.

Marius Hills is the largest lunar dome field. Covering an area with about 230 kilometers in diameter, it contains roughly 300 precipitous volcanic domes, which are crossed by several sinusoidal rilles. The longest rille - with a total length of 250 km - is the **Rima Marius**. It begins north of the crater **Marius** (41km) with a width of only 2 km and gets gradually more narrow. A minor rille, the **Rima Galileo** - lies west of the crater Marius. The Marius Hills are a unique lunar formation.

Mersenius, which measures 84 kilometers in diameter, is a very impressive "Floor Fractured crater" with a lifted crater floor and a system of rilles. The two large rilles, **Rima Mersenius** and **Rima Sirsalis** point radially to the large Oceanus Procellarum.

Mons Rümker is, with a diameter of 75 kilometers, one of the largest intrusive volcanic structures on the front of the moon. Half a dozen other effusive lunar domes are scattered on its surface. It is a completely unique structure.

Mons Rümker is difficult to observe due to its location next to the lunar edge so favorable libration conditions are necessary. In the era before Apollo, Mons Rümker has been classified as a largely destroyed large crater.

Montes Agricola (160km) is also a unique structure. It is a drawn-out ridge and certainly not a residue of a basin or crater wall. The surface is structured differently than the **Aristarchus Plateau** and therefore most likely not just a separated part of the plateau. His origin is also lost in the dark of the lunar history.

Pythagoras measures 145 kilometers in diameter and is similar to the Copernicus crater. Due to its location close to the North Pole it only can be observed in profile

(ensure favorable libration). The irregular distribution of the ejecta indicates an impact with a shallow angle from the northwest.

Reiner Gamma is also one of the most extraordinary structures - and one of the most mysterious. It is an oval, bright area with a "tail" of over 200 kilometers. No incline and no subsidence the height difference is roughly 0 meters. Reiner Gamma is a lunar **SWIRL**, a region with a strong magnetic anomaly. It is the only SWIRL on the front side of the moon. The total length of the structure is about 240 km.

Presumably the relatively strong magnetic field - compared to the rest of the moon – prevents a darkening of the material by the solar wind. But which event generates a magnetic field anomaly of this kind? Reiner Gamma is easy to observe at a high Sun elevation but the origin of Reiner Gamma is not at all understood.

Vallis Schröteri has a total length of 185 km and a width of 3 to 6 km. It is the largest sinusoidal lava channel of the moon. On the floor there is in additionally an extremely narrow rille. The Origin of the lava flow is a great (collapsed) Caldera with the unofficial name "cobra head", situated north of Aristarchus and Herodotus.

Wargentín (87km) is as unique as Schiller. It is the only crater which is flooded with lava up to the crater wall and even beyond. On the surface y-shaped ridges are visible. In the northeast, the lava flowed over the crater wall and formed the smooth lava region east of Schickard.