

# Biographical Encyclopedia of Astronomers

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Petit, Pierre

Born Montluçon, (Allier), France, 8 December 1594 (?) or 31 December 1598

Died Lagny-sur-Marne, (Seine-et-Marne), France, 20 August 1677

Physicist, mathematician, astronomer, and instrument maker Pierre Petit was christened on 31 December 1598. He was one of seven children born to Pierre Petit, then *contrôleur en l'élection* in Montluçon, a town situated in the Bourbonnais region of France, and Marie (née Bonnelat) Petit. As a young man, Petit assumed the duties of his father's office in 1626. But being more interested in scientific matters, he gave up this position and went to Paris in 1633. During his lifetime, Petit served in many official capacities, as a provincial *commissaire d'artillerie*, as an engineer and geographer to King Louis XIV, and as *intendant général des fortifications* in France.

While at Paris, Petit became a friend of Marin Mersenne and was included in meetings of Mersenne's circle. Petit also became acquainted with Étienne Pascal and his mathematician son, Blaise Pascal. It was from Mersenne that Petit learned about Evangelista Torricelli's experiments with the barometric vacuum and, with the Pascals' help, successfully repeated them. Following Mersenne's death, this group met at the residence of Henri-Louis Habert de Montmor and became known as the Académie de Montmor. There, Petit was introduced to Adrien Auzout, Jean Picard, and Christiaan Huygens. In conjunction with Auzout and Picard, Petit helped to perfect an instrument known as a filar micrometer, used to measure the very small angles of celestial objects viewed through a telescope. Petit also produced the earliest surviving sketch (1662) of the "magic lantern," or lantern projector, in his correspondence with Huygens.

By 1664, however, the Académie de Montmor had exhausted its funds. An appeal for assistance was directed to Jean-Baptiste Colbert, French statesman and financier. Two years later, King Louis XIV established the Académie royale des sciences, following many of the suggestions proposed by the academicians. Petit, however, was not among the founding members of the Académie des sciences, perhaps because he held a full-time government position. In 1667, however, Petit was named a corresponding member of the Royal Society of London.

Petit's most important astronomical work was his *Dissertation sur la nature des comètes* (1665). Therein, he speculated that a bright comet seen in December 1664 was the same as another viewed in 1618. Petit surmised that the comet had an elliptical orbit with a period of 46 years. He even went so far as to predict the return of this comet in 1710. Petit, however, was wrong about the particulars of this assertion. (Comets C/1664 W1 and C/1618 W1 were neither identical nor periodic.) Yet his suggestion that comets might be periodic phenomena helped to diminish lingering fears and superstitions about their mysterious nature.

Petit also published a study on magnetic declination. His astronomical equipment included graphometers, quadrants, and objective lenses fashioned by the optician Giuseppe Campani.

Petit married and had, among his children, one daughter, "Marianne," who became a Benedictine nun at Lagny-sur-Marne. A street and square, situated in the old part of Montluçon, bear Petit's name.

*Suzanne Débarbat*

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