Cometary dust as seeing by the Rosetta mission

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At the previous Cosmic Dust meeting there were four presentations, where leading scientists of the Rosetta dust instrument teams presented the first results of the mission. Since that time Rosetta has accumulated far more data, allowing a comprehensive analysis of the cometary dust characteristics. To the data of the dust instruments (COSIMA, MIDAS, GIADA, and DIM/SESAME) the dust data obtained by other instruments (OSIRIS, VIRTIS, ROSINA) have been added. The accumulated data reveal information on velocity, size, structure, and composition of the cometary dust particles, and their variations depending on the heliocentric distance, insolation, and the areas on the nucleus from which the dust was lifted or dust jets originated. I will present an overview of the Rosetta results, trying to summarize the obtained knowledge on the dust in comet 67P/Churyumov-Gerasimenko. Then I will analyze existing theoretical and laboratory models of light scattering, formation, and evolution of the cometary dust to identify which models are most consistent with the Rosetta findings. The Rosetta dust data have raised some new questions which I will also outline.