

Can 67P/Churyumov-Gerasimenko become the reference for comet research?

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After its discovery in 1969, comet 67P/Churyumov-Gerasimenko went almost unnoticed through another five perihelion passages until the year 2003, when it suddenly became the new target of the first comet rendezvous mission, Rosetta. Today, 11 years and 1.5 apparitions later, it has become one of the few Jupiter-family comets that were monitored along its entire orbit, even near aphelion. Huge effort was spent in determining its characteristics. Observations obtained by the largest and most sophisticated telescopes on the Earth and in space were combined with dedicated modelling approaches in order to be best prepared for the space mission. Therefore, at this point time, we have basically determined as much as is achievable for a comet of this brightness without visiting it by spacecraft. A summary of what we already know about 67P/Churyumov-Gerasimenko, hence what we could in principle also determine for the ensemble of Jupiter-family comets, will be provided. The information expected to become available after the comet rendezvous will then be discussed particularly in view of whether and how it can be transferred to other comets for which only remote observations can be collected in the near future.