

Keep-in-Touch (December 07, 2021, 2.00pm)

From Huygens to ESTHER

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Focusing on previous ESA missions and studies, the talk shall illustrate their link with basic research in the field of aerodynamics and plasmas and more specifically of non-equilibrium radiating flows. Huygens mainly, but also IRDT (Inflatable Reentry and Descent Technology Demonstrator), IRENE (Italian Reentry Nacelle Experiment, to test a deployable braking device) and PHOEBUS (a demonstrator for future sample return capsules) shall be presented. The link with the computation of non-equilibrium radiative flows and their validation shall lead to the presentation of selected European facilities that have been involved in the validation of physical-chemical models. The challenges for future development and research shall be outlined.