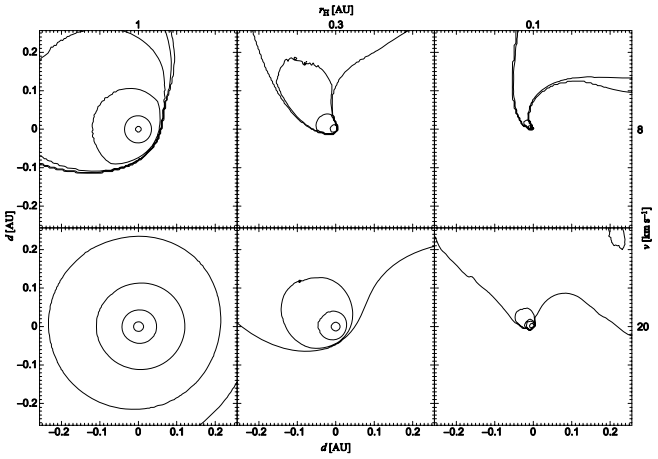
Numerical Simulation and Modelling of Coma and Dust

TRM

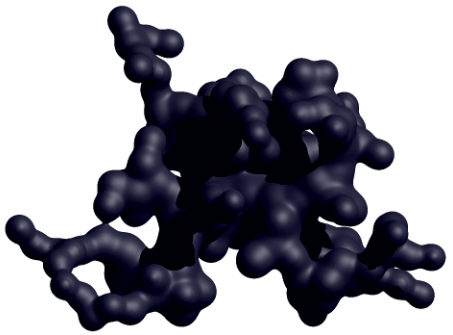
- hybrid hydrogen coma model
- combines the advantages of a vectorial model and a MC model
- can be used to deconvolve water production profile to study outbursts and fragmentation



Mäkinen, J.T.T. and Combi, M.R. Temporal deconvolution of the hydrogen coma I. A hybrid model. *Icarus* **177**, 217-227, 2005.

PADS

- self-consistent 3D rigid body particle simulator
- proper handling of interactions between particles, gas and radiation
- collision-induced fragmentation
- for studying aggregation, dusty coma and particle dissipation



Mäkinen, J.T.T. Particle accretion and dissipation simulator: Collisional aggregation of icy particles. *Icarus* **177**, 269-279, 2005.