A comparative study of the shape, size and composition of dust grains in various comets

We gathered 10 micron spectra of 22 different comets and fitted them for shape, size and composition of the dust grains. Properties of dust in different comets are compared. We also compare the cometary dust to the dust in proto-planetary disks around Herbig stars, to see if what we know about the composition of dust in comets can also teach us anything about the composition of our own proto-planetary disk. Most comets do indeed seem to behave similarly, except for comet Hale-Bopp, which has much stronger bands. Because of the large number of spectra we gathered from comet Hale-Bopp, we also took the opportunity to study the behavior of spectra as a function of heliocentric distance.

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