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# Protoplanetary Dust: from Grain to Planet

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## Abstract

Protoplanetary dust is the raw material for building planets. On the path from sub-micron sized particles to planetary scales spans many orders of magnitude, each with its own challenges that need to be overcome. Over the past decade, ALMA, the VLT, and JWST have revolutionized our view and understanding of these processes while theory has opened new pathways, such as pebble accretion.

In this talk I will give a brief overview of the path from dust grain to planet, how dust grows and drifts, where it concentrates and what recent observations revealed about early planet formation. I will highlight what we have learned about dust rings, traps, volatile delivery, and disk demographics. Despite rapid progress, key questions remain. I will close by pointing to the observations most likely to drive further progress in the coming years.

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