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Directly Imaged Giant Planets: What do we Hope to Learn?

As we move into an era when GPI and SPHERE are (hopefully) discovering and characterizing new young giant planets, it is worthwhile to step back and review our science goals for young giant planets. Of course for individual planets we ideally would hope to measure mass, radius, atmospheric composition, temperature, and cloud properties, but how do these characteristics fit into our broader understanding of planetary system origin and evolution theories? In my presentation I will review both the specifics of what we hope to learn from newly discovered young worlds as well as how these characteristics inform our broader understanding of giant planets and planetary systems. Finally I will consider the limitations realistic datasets will place on our ability to understand newly discovered planets, illustrating with data from any new such worlds that are available by the conference date.