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### **Extrasolar Planet Theory: Formation, Evolution, and Direct Detection**

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More than 140 extrasolar giant planets (EGPs) have been discovered to date, revolutionizing our conception of the nature of planetary systems. Furthermore, extrasolar Neptune-mass planets, ten times less massive than Jupiter, have been found, as have 3 terrestrial-mass planets orbiting a single pulsar. Unfortunately, most extrasolar planet detections have been by the indirect technique of high-precision Doppler spectroscopy of their parent stars. However, it is by the direct detection and spectroscopic investigation of extrasolar planets that they can best be scrutinized and accomplishing this is becoming a major goal of an increasing fraction of the astronomical community. Technologies are being developed not only to directly detect and spectroscopically measure EGPs, but also terrestrial planets, some of which may harbor life. I will discuss the theory of the formation, evolution, and spectra of extrasolar planets and international plans for their discovery, study, and characterization.