

Title: Prospects for the discovery of Earth mass planets

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It was the renaissance philosopher Giordano Bruno who first suggested there might be other worlds orbiting the stars of the night sky. Bruno's heretical philosophising came to a fiery end, when in 1600 he was burned at the stake. However, his musings set the stage for one of astronomy's 'Holy Grails' - the search for planets around other stars which took 395 years, ending in 1995 when the extra solar planet around a sun-like system was detected. The Doppler wobble movement of the solar type star 51 Peg, suggested the presence of a planet the size of Jupiter and was heralded as one of the most exciting breakthroughs of the century.

This discovery has opened the floodgates and nearly 150 extrasolar planets have now been made by a variety of techniques. While many of the planets that have been discovered are around the mass of Jupiter, in last couple of years many sub-Saturn mass planets have been announced. In the last few months sub-Neptune mass planets have been discovered. I will discuss the prospects for the detection of lower mass planets and the kind of datasets that will be necessary to address the 'Holy Grail' for astronomers: an Earth-like planet around a Sun-like star suitable for follow-up observations