Research and characterization of exoplanets from radial velocities using SOPHIE at OHP

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Accurate stellar radial velocities measured from high-resolution spectrographs constitute a powerful technique to study exoplanetary systems. That indirect method allowed the first exoplanets to be detected 30 years ago, and continues providing numerous results. Many high-precision spectrographs focus on such programs in exoplanetology. Among them, the SOPHIE environmentally stabilized echelle spectrograph, at Haute-Provence Observatory 1.93-m telescope, is widely used for such studies in the optical domain. SOPHIE is employed to perform radial velocity surveys in different stellar samples, and for the follow-up of photometric surveys for transiting planets. Those programs yield new detections and characterizations in an increasing parameters space. They also provide statistics on the planetary populations. I will present the SOPHIE instrument and programs, and some of their recent results in exoplanetary science.