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The ODISEA Project: Planet Formation in the Ophiuchus Molecular Cloud

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Ophiuchus is one of the closest and youngest star-forming regions to our planet, making it a perfect laboratory to study star and planet formation. The Ophiuchus DIsk Survey Employing ALMA (ODISEA) originally targeted ~300 YSOs at different stages of evolution (from SED Class I to III) in Band-6 and at modest resolution. After several follow up programs, there are now observations on multiple frequencies, sensitivities and angular resolutions. That data allows us to explore the "big picture"of disk evolution and planet formation at different scales, from outflows and envelopes, to planet-induced substructures in protoplanetary disk. In this talk, I will present a summary of the main results from the ODISEA project, including on environment around very low mass stars and proto brown dwarfs, the large gaseous structures interacting with the ISM, the statistics for disk masses and sizes around single and multiple systems, and the evolution of substructures within massive protoplanetary disks. Furthermore I will also present ongoing projects on the statistics of molecular line structures along the whole ODISEA survey, the multi frequency analysis of 100 Ophiuchus sources, the detection of substructure in new Band-8 data, and the very recent modeling of planet-induced substructures driving the observed diversity of disk morphology (see companion figure). In conclusion, this is going to be a "brief"summary of the main past, present and future results on disk evolution and planet formation from the ODISEA survey.

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