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# **SOFIA FEEDBACK Survey: Interplay between protostellar and main- sequence feedback mechanisms in NGC 7538**

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Radiative and mechanical feedback from massive stars rigorously controls star formation and galaxy evolution. Modern astronomy has one of its greatest challenges in attempting to characterize the stellar feedback modes in various massive star-forming regions of the Galaxy. Recent SOFIA [CII] observations at 158 microns from the SOFIA C+ SQUAD Large Program estimated the relative importance of feedback mechanisms provided by protostellar and main-sequence phases in the Orion Veil shell. Namely, Pabst et al. (2022) and Kavak et al. (2022) determined that protostellar feedback is one-sixth of the feedback provided during the main sequence phase of the Trapezium cluster, which contains an O6-type star in the Orion Nebula. We focus on another massive star-forming region to see if there is a correlation between protostellar and main-sequence feedback mechanisms. We will present the results obtained from NGC 7538, which is one of the essential SOFIA FEEDBACK Legacy Program sources. Two O-type stars (IRS-5 and IRS-6) in NGC 7538 are responsible for the expansion of the HII region, which interacts with a powerful outflow from IRS-1, an O-type star, in the formation process. In addition, NGC 7538 is considerably more evolved than the Orion Nebula. Moreover, the measured size of the HII region is almost two times bigger than the theoretical Strömgen sphere. In this talk, we will discuss the main driving mechanisms in NGC 7538 and compare them with the results of the Orion Nebula.