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Photoevaporation and close encounters: how the environment around Cygnus~OB2 affects the evolution of protoplanetary disks

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Cygnus OB2 is the most massive stellar association within 2 kpc from the Sun. Given its large content of massive stars, counting tens of O and 3 WR stars, and thousands of young low mass stars, Cygnus OB2 is the best target to study how massive stars affect the star formation process in the parental cloud and the evolution of nearby protoplanetary disks.

I will present the results of our study on the feedback provided by the environment in Cygnus OB2 on disk evolution, combining the X-ray data from the 1.08 Msec Chandra Cygnus OB2 Legacy Project (P.I. J. J. Drake) with an extensive set of optical and infrared data of the association. I will analyze and compare the destructive feedback provided by disk photoevaporation induced by the intense local UV field and close encounters between members of the association, and I will show evidence indicating that disk evolution in an environment similar to Cygnus OB2 is seriously affected by externally induced photoevaporation while close encounters do not provide an important feedback.

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