

Stellar Activity on Local Association (7-100 Myr) Dwarfs and Its Potential Influence on Their Protoplanetary Systems

*Alexander Brown (ab at casa.colorado.edu), University of Colorado
Graham Harper, University of Colorado
Thomas Ayres, University of Colorado*

Young stars have very high levels of stellar activity (e.g. UV and X-ray emission) that can strongly affect the formation and evolution of their protoplanetary systems. The high energy emission, both as radiation and particles, resulting from magnetic activity on the central star influences the thermal structure of disks, the formation process of planetesimals, and the photoexcitation and photoionization of protoplanets and young planetary atmospheres. The dwarfs of the Local Association, whose ages range from 7 Myr to 200 Myr, are a remarkable sample of young stars very close to the Sun (typically nearer than 50 pc) that permit the detailed study of the early evolution of stellar activity. We describe our FUV (FUSE and HST) and X-ray (Chandra and XMM) observations of Local Association dwarf stars and the overall high energy (FUV/EUV/X-ray) radiation fields from such stars. Major observational efforts that are included are our FUSE Cycle 6/7 Legacy project on the 12 Myr old Beta Pic Moving Group and our FUSE Cycle 7 Survey project on the 30 Myr old Tucana-Horologium Moving Group.