Star formation in the limelight (No 2518)

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Wednesday Plenary

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Young eruptive stars are pre-main sequence objects undergoing a temporary, but significant increase of mass accretion rate from the circumstellar disk onto the protostar. The enhanced accretion leads to increased luminosity, putting the disk in the "limelight." These outbursts are known to induce important physical and chemical changes in the disk's planet-forming zone. The material accreted during these episodes may substantially contribute to the final stellar mass. Repeated eruptions may clear up the protostar's environment and drive its evolution. Both theoretical and observational studies suggest that episodic accretion may be universal during star formation, but there is no consensus about what triggers the accretion bursts and whether the disks of young eruptive stars are in any way different from disks of non-bursting young stellar objects. In this talk, I will review the most exciting new results in the field of young eruptive stars, obtained partly thanks to high spatial resolution instrumentation that allowed us to have a closer than ever look at the circumstellar matter.