Young Stars and Star Formation in Selected Regions of the Galaxy

In Introduction I will make short excursus to the deep roots of ancient astronomy in Uzbekistan (Ulugh Beg, al-Biruni, al-Khorezmi, et al.) and to our modern facilities, as Maidanak observatory and Suffa 70 m radio telescope. The search of young PMS stars made by our group at Maidanak, Byurakan, Beijing observatories, especially in Taurus dark clouds and in NGC 6820/23 area will be described and results will be presented. We consider physical conditions in different star forming regions, particularly in TDC and around Vul OB1, estimate SFE and SFR, energy balance and instability processes in these regions. We also reviewed all data on molecular clouds in the Galaxy and in other galaxies where the clouds were observed to prepare general catalog of molecular clouds, to study physical conditions, unsteadiness and possible star formation in them, the formation and evolution of molecular cloud systems, to analyse their role in formation of different types of galaxies and structural features therein.