ON THE SKY SPECTROSCOPY WITH RATAN-600

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Observations of radio lines with the RATAN-600 radio telescope are being carried out during 30 years in the domain of

– systematical investigations of a cloudy structure of the Galactic interstellar medium in the lines of HI at 21 cm, OH at 18 cm, H_2CO at 6.2 cm and H_2O at 1.35 cm with the aim of understanding its structure, dynamics, evolution and interaction with other Galactic populations;

– investigation of physical and evolutionary status of large structures of interstellar gas;

– a search of gas clouds at cosmological distances with the help of their probable line emission.

The most interesting results were obtained in the investigation of HI gas around SNR's and HII regions, recombination line H110α in the Orion nebula, HI Super Shells, a formaldehyde cloud in the source Sgr B2, statistical characteristics, "scale relations" and internal motions of the HI clouds and properties of interstellar gas at high Galactic latitudes.