INTERSTELLAR FORMALDEHYDE - A RETROSPECTIVE

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On 31 March 1969, the era of modern radio astrochemistry started with the detection of interstellar formaldehyde (H_2CO). It was the first detection at radio wavelengths of a molecule with more than one heavy atom (previous detections up until this discovery were limited to hydrogen atoms attached to a single heavy atom, e.g. CH, OH or NH_3) and, with the improvements in radio frequency receivers and new astronomical facilities coming online, heralded an era of discovery that has lasted for now more than 50 years. During this time, the number of new molecule detections has remained nearly constant at 3.7 molecules/year with a vast majority of these discoveries taking place in the radio regime (McGuire, B. 2018, APJS, 239, 17). This presentation will take us back to the time of this first detection, a quick synopsis of how observations of formaldehyde has led to a better understanding of the physical and chemical environments of astronomical sources and finally a look to the future with recent Green Bank Telescope (GBT) and Karl G. Jansky Very Large Array (VLA) observations of the 4830 MHz transition and high frequency searches with the Atacama Large Millimeter/submillimeter Array (ALMA).