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SPECTROSCOPY 2011

EXTENDING THE LIMITS OF ASTROPHYSICAL SPECTROSCOPY

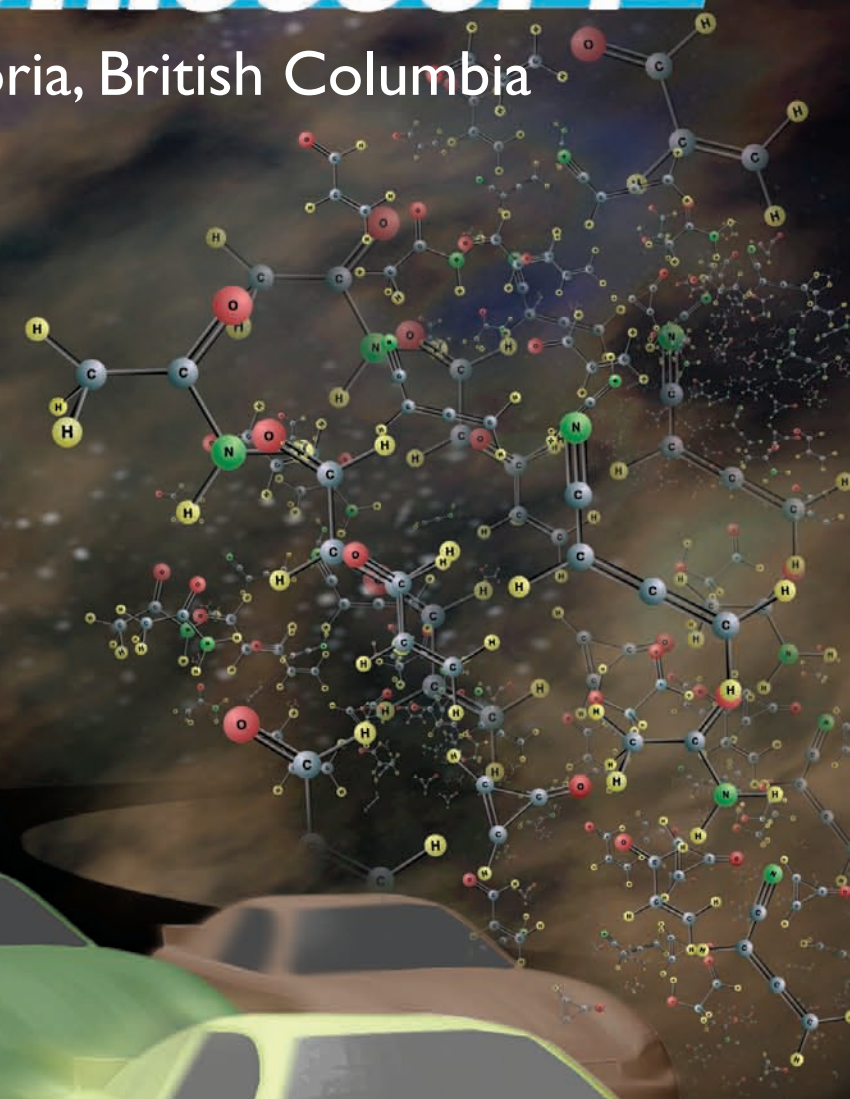
National Research Council of Canada • Victoria, British Columbia
January 15 – 17, 2011

The capabilities of new Atacama Large Millimeter/submillimeter Array (ALMA) instrumentation will be highlighted at this meeting via invited science talks in astronomy, astrophysics, and astrochemistry.

Over the next several years, National Radio Astronomy Observatory (NRAO) research facilities will provide the scientific community with unprecedented advances in high spatial resolution and broadband observing capabilities over frequency ranges that are sparsely covered by other facilities. ALMA will be capable of recording more than 2 GHz of instantaneous bandwidth at high spectral resolution and will routinely deliver high fidelity, high spatial resolution astronomical images. Spectroscopy is a vital tool to improve our understanding of the Universe, enabling scientists to probe physical and chemical environments, investigate kinematics and dynamics, and explore the high red-shift Universe while also obtaining abundances, concentrations, and temperatures of exotic molecular species.

Specific focus areas for this science conference will include:

- **The Atomic Universe: Atomic Spectra as Probes of Cool Gas**
- **The Molecular Universe: Dense Star-forming Gas**
- **Isotopic Variety in Interstellar Medium**
- **Our Molecular Origins: Prebiotic Molecules**



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