

ELIMINATION OF THE VACUUM PUMP REQUIREMENT FOR HIGH-RESOLUTION ROTATIONAL SPECTROSCOPY.

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It has been observed that with the advances being driven by the wireless communications industry, the microwave components for submillimeter wave spectrometers and sensors will become almost "free". Moreover, these electronic components will require little power. However, neither of these attributes applies to the vacuum requirements for high-resolution rotational spectroscopy. We will report on the design, construction, and operation of a simple spectroscopic cell that overcomes these problems.