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同时,与其配合使用的是一台分辨率可达 0.5 厘米^{-1} 的光栅红外分光计、热电探测器、锁相放大器及显示系统。在常温条件下可很方便地实现对极稀薄气体样品吸收衰减和分子吸收系数的测定。

几年来,我们利用这一多程样品池进行了 CO_2 激光的模拟大气衰减的研究;大气中 CO_2 对 CO_2 激光谱线的吸收衰减的研究;水气对 CO_2 激光的吸收衰减的研究。同时,还进行了乙烯、氨、甲醇等多种污染气体对 CO_2 激光谱线的吸收系数测定。所得结果与野外实测结果符合得很好。

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