AN OPTICALLY ACCESSIBLE PYROLYSIS MICROREACTOR

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We report an optically accessible pyrolysis micro-reactor suitable for *in situ* laser spectroscopic measurements. A radiative heating design allows for completely unobstructed views of the micro-reactor along two axes. The maximum temperature demonstrated here is only 1300 K (as opposed to 1700 K for the usual SiC micro-reactor) because of the melting point of fused silica, but alternative transparent materials will allow for higher temperatures. Laser induced fluorescence measurements on nitric oxide are presented as a proof of principle for spectroscopic characterization of pyrolysis conditions. (This work has been published in J. H. Baraban, D. E. David, G. B. Ellison, and J. W. Daily. An Optically Accessible Pyrolysis Micro-Reactor. *Review of Scientific Instruments*, 87(1):014101, 2016.)