

POLYGONAL PLANAR MULTIPASS CELL, SYSTEM AND APPARATUS
INCLUDING SAME, AND METHOD OF USE

Abstract

Provided is a novel polygonal planar multipass cell and method of use for absorption spectroscopy. The cell comprises a sample region circumscribed by a plurality of walls. Each wall has a light reflective surface facing the sample region, and each wall is connected to at least one other wall so as to form in cross section substantially a polygon. At least one side of the polygon has a light entry/exit port therein, and the entry/exit port contains a light transmissive window which has a surface facing the sample region. The window is disposed so as to seal the cell in the circumferential direction. The cell has a central axis parallel to the light reflective surfaces of the walls and the surface of the light transmissive window which face the sample region. The cell can be used to measure molecular gas impurities in a sample. Particular applicability is found in semiconductor processing.

(Figure 4A)