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A portable flat vacuum cell and the effect of its surface adsorption

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In this work, we discussed about our construction of a portable flat vacuum cell and our study of the effect of surface adsorption in the cell in which thermal atoms were trapped. The cell comprised two parallel glass plates that were separated by a narrow gap in order to accentuate the dominance of collisional frequency along the glass surface's normal. The identification and measurement of the effect of adsorption were based on variation of a distance between the glass plates, kinetic energy of the atoms, and types of material coated on the surfaces. The result was useful in designing cold atom transport inside a cell with restricted dimension.

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