

**Ratschek, H.; Rokne, J. G.**

**How trivial are reliable box-plane intersections?** (English) Zbl 1206.65059  
Comput.-Aided Des. 32, No. 11, 643-648 (2000).

Summary: Three completely different algorithms for box-plane intersection testing are considered. They are compared with respect to worst case analysis, average performance and overhead. It turns out that each of the algorithms has different advantages and it is difficult to select one of them. Particular new aspects include the observation that one only needs two vertices on a particular diagonal of the box to determine the intersection with the plane and that the algorithm ESSA is used to resolve cases left indeterminate by the main algorithm because of rounding errors.

**MSC:**

[65D17](#) Computer-aided design (modeling of curves and surfaces)  
[68U07](#) Computer science aspects of computer-aided design  
[68U05](#) Computer graphics; computational geometry (digital and algorithmic aspects)

Cited in **1** Document

**Software:**

[C-XSC 2.0](#)

**Full Text:** [DOI](#)