The authors first study the degree of standard procedures for determining the number of line transversals to four lines or four segments in 3D [cf. H. Brönnimann, H. Everett, S. Lazard, F. Sottile, and S. Whitesides, Discrete Comput. Geom. 34, No. 3, 381–390 (2005; Zbl 1083.52003)]. They also consider the predicate for determining whether a minimal segment transversal to four line segments is intersected by a triangle. These predicates are ubiquitous in 3D visibility problems The predicate for ordinary planes through two fixed points, each plane containing a third rational point or a line transversal to four segments or lines is also studied [cf. H. Brönnimann, O. Devillers, V. Dujmović, H. Everett, M. Glisse, X. Goaoc, S. Lazard, H.-S. Na, and S. Whitesides SIAM J. Comput. 37, No. 2, 522–551 (2007; Zbl 1138.65019)].

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References:
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