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Line transversals in families of connected sets in the plane.

We prove that if a family of compact connected sets in the plane has the property that every three members of it are intersected by a line, then there are three lines intersecting all the sets in the family. This answers a question of Eckhoff from 1993, who proved that, under the same condition, there are four lines intersecting all the sets. We also prove a colorful version of this result, under weakened conditions on the sets, improving results of Holmsen from 2013. (Received August 08, 2021)