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ADDENDUM TO "ON PARTITIONS OF PLANE SETS INTO SIMPLE CLOSED CURVES. II"

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In a letter, A. Beck has informed me that the methods in this paper settle a question raised informally by R. H. Bing some years ago (and answered, but not published, by Beck). Bing conjectured that if $F \subseteq E^2$ is closed nonempty and does not separate E^2 then $E^2 \backslash F$ can be partitioned into scc's iff $E^2 \backslash F$ is an annulus (i.e. homeomorphic to $E^2 \backslash \{\text{point}\}$). To see how this follows from our approach, first note that, by a simple connectedness argument, no component of F separates E^2. So let $\mathcal{S}$ be a partition of $E^2 \backslash F$ into scc's, and let $S \in \mathcal{S}$. Then $F \cap B(S)$ is compact. Applying Theorem (1) to $B(S) \simeq E^2$ tells us that we can regard $F \cap B(S)$ as a singleton, say $\{q\}$. Now exchange q and the point p at infinity, and apply the same argument to the compact set $\{p\} \cup (F \backslash B(S))$.

REFERENCES

Paul Bankston, *On partitions of plane sets into simple closed curves.* II, Proc. Amer. Math. Soc. **89** (1983), 498–502.

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