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CONTRIBUTED PROBLEMS

The Problems Editor invites anyone who has published a paper in *Topology Proceedings* or has attended a Spring or Summer Topology Conference to submit problems to this section. They need not be related to any articles which have appeared in *Topology Proceedings* or elsewhere, but if they are, please provide full references. Please define any terms not in a general topology text nor in referenced articles.

Problems which are stated in, or relevant to, a paper in this volume are accompanied by the title of the paper where further information about the problem may be found. Comments of the proposer or submitter of the questions are so noted; comments of the Problems Editor are not specially noted. Information on the status of previously posed questions is always welcome. Submission of questions and comments by email in TEX form is strongly encouraged, either to topolog@auburn.edu or directly to the Problems Editor at mayer@math.uab.edu.

D. Paracompactness and Generalizations.

45. (Ge Ying) Let f be a closed Lindelöf mapping from a regular space X onto a Hausdorff mesocompact space Y. Is X mesocompact?

F. Continuum Theory.

47–48. For definitions and additional information concerning the following two problems, see the paper *Families of Inverse Limits on* $[0, 1]$ by W. T. Ingram in this issue.

47. (W. T. Ingram) It would be interesting to know more about the topology of the continua produced by permutation maps based on permutations on n elements with $n \geq 6$.

48. (W. J. Charatonik) Does every permutation map produce a continuum having the Property of Kelley?

P. Products, Hyperspaces, Remainders and Similar Constructions.

53–55. For definitions and additional information concerning the following three problems, see the paper *The Connectivity Structure of the Hyperspaces* $C_\epsilon(X)$ by Eric L. McDowell and B. E. Wilder in this issue.

53. (Eric L. McDowell and B. E. Wilder) For what continua X is it true that $C_\epsilon(X)$ is countable closed set aposyndetic for all $\epsilon > 0$?

54. (Eric L. McDowell and B. E. Wilder) Is $C_\epsilon(X) - \mathcal{B}$ always connected when $\mathcal{B} \subset C_\epsilon(X)$ is countable?

55. (Eric L. McDowell and B. E. Wilder) Is $C_\epsilon(X) - \mathcal{B}$ always connected when $\mathcal{B}$ is zero-dimensional?

56–57. Comments of the proposer. Let $C(X)$ denote the hyperspace of subcontinua of a continuum X. For $p \in X$ define the hyperspace $C(p, X) = \{A \in C(X) : p \in A\}$ and $\mathcal{K}(X) = \{C(p, X) : p \in X\}$. (See the paper *The Hyperspaces* $C(p, X)$ by Patricia Pellicer-Covarrubias in this issue.)

56. (Patricia Pellicer-Covarrubias) Let T be a simple triod. Does there exist a continuum X, $X \neq T$, such that $\mathcal{K}(X)$ coincides with $\mathcal{K}(T)$? If so, must X be indecomposable?

57. (Patricia Pellicer-Covarrubias) More generally, if G is a finite graph, does there exist a continuum X such that $\mathcal{K}(X)$ coincides with $\mathcal{K}(G)$? If so, must X be indecomposable?