Distinct Representatives in Special Set Families in Graphs

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In 2017, Hedetniemi asked the question "for which graphs G does the indexed family $\{N_G(v)|V \in V(G)\}$ of open neighborhoods have a system of distinct representatives?" In 2018, 2019, and in 2020, we answered that question, and explored necessary conditions and associated parameters. Now, we move on to other special set families in graphs and examine whether they do or do not have a system of distinct representatives.