1003-22-1197 **Julie C Jones*** (`julie@shsu.edu`), Sam Houston State University, Department of Mathematics and Statistics, Huntsville, TX 77341-2206. *Separation in Protopological Groups.* Preliminary report.

A *protopological group* is a group G with a topology τ such that there exists a collection $\mathcal{N}$ of normal subgroups, called a *normal system*, satisfying (1) For every neighborhood U of the identity e, there exists an $N \in \mathcal{N}$ with $N \subseteq U$ and (2) G/N with the quotient topology is a topological group for every $N \in \mathcal{N}$. A protopological group is a generalization of a topological group since if G is a topological group, we can take $\{e\} \in \mathcal{N}$. In this talk, we will study the normal system associated with a protopological group, and we will also study separation in protopological groups. We will use these results to find sufficient conditions for a protopological group to be a topological group. (Received October 04, 2004)

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