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We approach the subject of the title by studying which configurations (finite posets with connected Hasse diagrams) can be embedded in a sum. Of course, the sum contains (the canonical copy of) each summand, so that any configuration which embeds in a summand obviously embeds in the sum. But, although the disjoint union of the summand constitutes a dense subset, the compactness of the sum forces the existence of many additional points. Thus it is possible for a configuration to appear in a sum without appearing in any summand. This cannot happen if (the Hasse diagram of) the configuration is acyclic, but, assuming the configuration has a top element, does happen if the configuration has a cycle. We have assembled a great deal of evidence that the latter assertion holds without the assumption of a top element, but lack a proof at the time of this writing.

In this talk we address a closely related question. Is it possible for a configuration with a cycle to embed in a sum of acyclic configurations? Current evidence points strongly to a negative answer. (Received August 30, 2005)