# An abstract structure theorem for suborder lower ideals of series-parallel posets

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**Abstract**

When naturally occurring classes of combinatorial objects are well quasi ordered, it is assumed that the existence of a structure theorem is behind the scenes causing this behavior. If a class is well quasi ordered, then so is every lower ideal, so there should in fact be a structure theorem for every lower ideal in the class. It is thus natural to ask not only for one structure theorem for one class, but for algorithms taking as input lower ideals and giving as output structure theorems for that ideal. Nigussie gave such an algorithm for lower ideals of trees under topological minor. – In this talk, we outline such an algorithm for lower ideals of series-parallel posets under suborder. Though series-parallel posets generalize trees, our results do not quite generalize Nigussie's as the containment relations are distinct. We none the less give some evidence that it should be possible to axiomatize the containment relations so that a true generalization is obtained.

**Keywords:** series-parallel poset, lower ideals, well quasi order.