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ABSTRACT**

<b>Title of abstract:</b>	Computer Automated Performance-Based Optimization of Strut-and-Tie Models in Reinforced Concrete Corbels
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<b>Abstract:</b>	<p>This paper presents computer automated performance-based optimization of strut-and-tie models in reinforced concrete corbels. The automated performance-based optimization (PBO) technique is used to develop optimal strut-and-tie models for the design and detailing of reinforced concrete corbels. The PBO technique incorporates the finite element analysis, topology optimization theory, performance-based optimality criteria and performance-based design concepts into a single scheme to automatically generate optimal designs. Developing strut-and-tie models in reinforced concrete corbels is treated as a topology optimization problem of continuum structures. The optimal strut-and-tie model in a concrete corbel simulated with finite elements is generated by gradually removing inefficient finite elements from the corbel in a performance optimization process. Two examples are provided to demonstrate the effectiveness of the computer automated PBO technique as an advanced design tool for reinforced concrete corbels.</p>