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# Fast Vehicle Crash Modelling for Games

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<b>Key words and Phrases:</b> <i>crash; animation; computer games; deformation; physically based modelling;</i>
<p><b>Abstract:</b></p> <p>In this paper, we present a prototype of a deformation engine to efficiently model and render the damaged structure of vehicles in crash scenarios. We have introduced a novel system architecture to accelerate the computation, which is traditionally an extremely expensive task. Non-linear deformations are solved based on the principle of energy conservation. Large plastic deformations resulting from collisions are modelled as a weighted combination of deformation examples of beams which can be produced using classical mechanics.</p>
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<p><b>Supplementary Notes:</b></p> <p>First International IEEE Conference in Serious Games and Virtual Worlds, March 23 - 24, Coventry, UK</p> <p>Video of presentation at: <a href="http://dp-x.com/datpresenter/dpx.php?dpxuser=SGI">http://dp-x.com/datpresenter/dpx.php?dpxuser=SGI</a></p>

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