Real-Time Slicing Algorithm for Stereolithography (STL) CAD Model Applied in Additive Manufacturing Industry

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Abstract. Owing to the advent of the industrial revolution 4.0, the need for further evaluating processes applied in the additive manufacturing application particularly the computational process for slicing is non-trivial. This paper evaluates a real-time slicing algorithm for slicing an STL formatted computer-aided design (CAD). A line-plane intersection equation was applied to perform the slicing procedure at any given height. The application of this algorithm has found to provide a better computational time regardless the number of facet in the STL model. The performance of this algorithm is evaluated by comparing the results of the computational time for different geometry.