

To Whom It May Concern,

I am writing to express my enthusiastic endorsement for the bachelor thesis titled "Stochastic Runge–Kutta Lawson Schemes for European and Asian Call Options Under the Heston Model," authored by Nicolas Kuiper and Martin Westberg, which I had the pleasure of evaluating. As an associate professor at Mälardalen University, I routinely assess a wide range of theses, from bachelor to PhD level, and I must say that this particular thesis stands out as an exceptional piece of academic work.

The quality of both the structure and language employed in this thesis is commendable. Notably, the mathematical content showcased exceeds the typical expectations for students at this level. Nicolas and Martin's presentation of the thesis was thoroughly prepared, and their responses during the ensuing discussion demonstrated a profound understanding that extended beyond the core content.

It's important to highlight that this thesis builds upon the numerical models developed by Debrabant et al. in 2019. The work by Debrabant and colleagues aimed to incorporate linear drift and diffusion terms within the exponential operator, alongside an exploration of highly oscillatory problems in Stochastic Differential Equations (SDEs). They also proposed methods to enhance the accuracy of numerical solutions.

To my knowledge, Nicolas and Martin's thesis is pioneering in its application of these methods to the Heston model. This innovative approach elevates the thesis to an outstanding level of academic achievement.

Considering the above, I had no hesitation in awarding Nicolas and Martin the highest possible grade for their exceptional work on this thesis.

Sincerely,



*Associate professor,
Mälardalen University*

8/9-2023
Västerås