Pattern formation on the moving curved surface

Hyundong Kim $^1$, Ana Yun $^2$, Sungha Yoon $^1$, Junseok Kim $^1$

1) Department of Mathematics, Korea University, Seoul 151-742, Republic of KOREA
2) Buram High School, Seoul 01736, Republic of KOREA

Corresponding Author: Junseok Kim, cfdkim@korea.ac.kr

ABSTRACT

In this study, we investigate the pattern formation in the specific reaction-diffusion systems on the moving curved surfaces. To solve the reaction-diffusion systems, we proposed the explicit time-stepping numerical method which is based on the Desbrun et al.’s discretization of Laplace-Beltrami operator on the triangular surface meshes. To investigate the pattern formation in the reaction-diffusion systems on the moving curved surface using the proposed numerical method, we perform the linear stability analysis and various computational experiments. And then we discuss the results of tests.

REFERENCES