A fast integration method for translating-pulsating source Green's function in Bessho form

Bessho型三维移动脉动源格林函数快速计算方法研究

Cite this as: Chao-bang Yao, Wen-cai Dong, 2014. A fast integration method for translating-pulsating source Green's function in Bessho form. *Journal of Zhejiang University-SCIENCE A (Applied Physics & Engineering)*, 15(2):108-119. [doi:10.1631/jzus.A1300209]

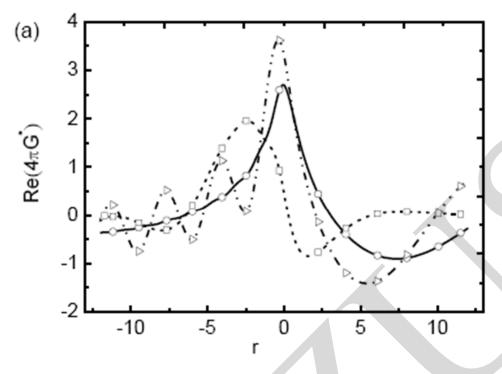
Main goal of this paper

A fast integration method for Bessho form translating-pulsating source Green's Function is proposed.

Main aspects involved in the fast integration method

- Analysis of the characteristics of this function
- Gaussian quadrature rule is used to eliminate the infinite jump discontinuous node
- Variable substitution method and steepest descent integration method are adopted to evaluate highly oscillate part of this function
- Self-compatible integration method in parametric domain is proposed
- The false singularities point is analyzed

Computational model and results



Agree well with existing results

 Time consumed is about 4*10⁻³∼ 6*10⁻³ s

