Buckling loads of columns of regular polygon cross-section with constant volume and clamped ends

Byoung Koo Lee

Dept. of Civil Engineering, Wonkwang University, Iksan, Junbuk, 570-749, Korea Email: <u>bkleest@wonkwang.ac.kr</u>

Sang Jin Oh

Dept. of Civil Engineering, Provincial College of Damyang, Damyang, Chonnam,517-800, Korea Email: <u>sjoh@damyang.damyang.ac.kr</u>

Guangfan Li

Dept. of Civil Engineering, Yanbian University, Yanji 13300, China

ABSTRACT

A numerical method is developed for calculating the buckling loads of tapered columns of regular polygon cross-section with constant volume and both clamped ends. The linear, parabolic and sinusoidal tapers are considered in numerical examples. From the numerical results, the strongest columns by the taper types and side numbers of regular polygon cross-sections are identified.

KEYWORDS

Buckling load; constant volume; strongest column; tapered column