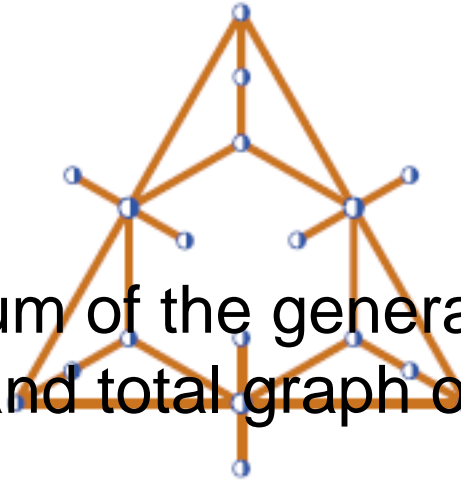


# Bled'11 - 7th Slovenian International Conference on Graph Theory

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## The spectrum of the generalised middle graph and total graph of a cycle



### Content :

The generalised middle graph  $M(n,k)$  of a cycle consists of vertices  $\{v_0, v_1, \dots, v_{n-1}, u_0, u_1, \dots, u_{n-1}\}$  and edges  $\{v_i u_i, v_i u_{i+1}, u_i u_{i+k}, i=0, 1, 2, \dots, n\}$ . The generalised total graph  $T(n,k)$  of a cycle consists of vertices  $\{v_0, v_1, \dots, v_{n-1}, u_0, u_1, \dots, u_{n-1}\}$  and edges  $\{v_i v_{i+1}, v_i u_i, v_i u_{i+1}, u_i u_{i+k}, i=0, 1, 2, \dots, n\}$ . In this paper we obtain the spectrum of these graphs and also the bounds for the spectral radius of  $M(n,2)$  and  $T(n,2)$ .

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