# Decomposition of Complete Graphs Into Disconnected Triangular Graphs With 7 Edges

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A graph decomposition into $G$ is done by partitioning a complete graph, $K_n$, into a set $S$ of subgraphs. Each of these subgraphs of $K_n$ is isomorphic to $G$ such that each edge of $K_n$ belongs to exactly one member of $S$.

In this talk, we prove that unicyclic triangular graphs on 7 edges decompose the complete graphs $K_{14k+7}$ and $K_{14k+8}$ for all integers $k \geq 1$. We accomplish this using $\sigma^L$, $\sigma^{L_m}$, m-rotational $\sigma^{L_m}$, and ad-hoc labelings. Combining our results and the work done in Banegas et al., who solved the case of $n = 14k$ and $n = 14k + 1$, we give the full spectrum for these graphs.

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