

# Star edge coloring of grids

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A *star edge-coloring* of a graph  $G$  is a proper edge-coloring without bichromatic paths and cycles of length four. The least number  $k$  such that  $G$  admits a star edge-coloring with  $k$  colors is the *star chromatic index* of  $G$ , denoted  $\chi'_{st}(G)$ . We consider graphs with highly regular structure such as grids - square grid (of plane, cylinder and torus respectively), triangular and hexagonal grids (of plane). We improve some existing bounds for the star chromatic index of these classes of graphs and state several exact values.

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## REFERENCES

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