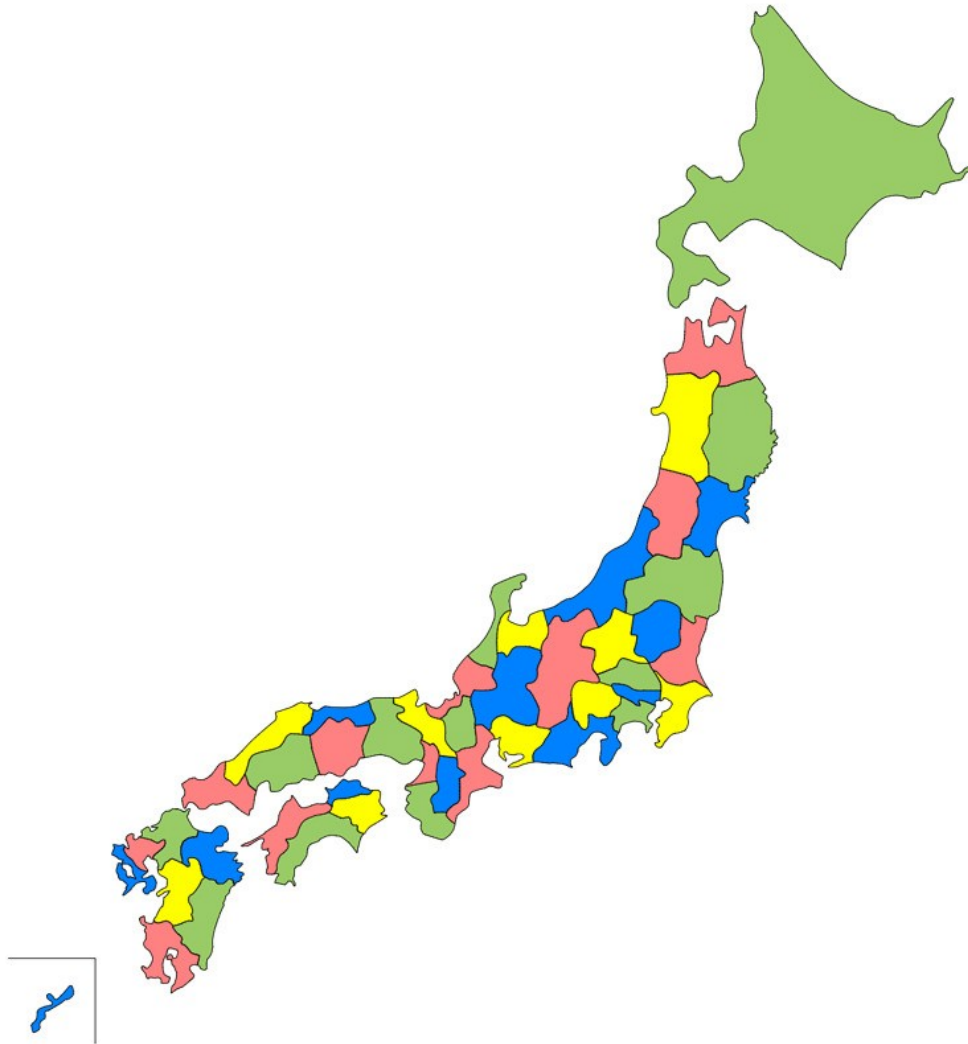


# Research of categorification of graph polynomials and structures of those cohomology groups

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Coloring of the map of Japan

Consider coloring of maps. It is an assignment of colors to the region such that no two regions with a common edge have the same color. How many colors do you color it. The number of necessary colors thinks that it will increase more as a map becomes more complicated when it thinks simply. It is known that it is colored and it can be colored any map of four colors on the plane (sphere). And it can be colored any map of seven colors on the torus. Coloring of maps is not mere child's play. Very interesting mathematics developed from there. At present, I research on the categorification of graph polynomials and structures of those cohomology groups.

Keywords : map coloring, graph polynomial, categorification, cohomology group