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Investigating Conjectures about Fullerenes

Fullerenes are all-carbon molecules whose molecular structures correspond to 3-regular planar graphs that have face sizes equal to five or six. Fuigui (Fullerene Interactive Graphical User Interface) is a java program under development whose goal is to aid the exploration of fullerenes and their parameters. This talk will include a selection of interesting open problems about various fullerene parameters. A demonstration of how Fuigui can be used to attack these will be provided.

This is joint work with Bette Bultena, Sean Daugherty, Bradley Debroni Patrick Fowler, Sameer Girn, Marsha Minchenko, and Jennifer Woodcock.