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Ancient solutions to the Yamabe flow

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In the *joint work with Daskalopoulos* we classify Yamabe solitons which are locally conformally flat and with positive sectional curvature. These are special cases of ancient solutions to the Yamabe flow. Together with Daskalopoulos and del Pino, we give a gluing construction of a compact ancient solution to Yamabe flow. In this construction we use the spheres as gluing objects. Using the perturbation arguments and standard linear theory, we construct new ancient solutions in this parabolic setting.

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