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Rationality is practically decidable for Nearly Euclidean Thurston maps.

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A Thurston map $f : (S^2, P) \rightarrow (S^2, P)$ is *nearly Euclidean* if its postcritical set P has four points and each branch point is simple. We show that the problem of determining whether f is equivalent to a rational map is algorithmically decidable, and we give a practical implementation of this algorithm. Executable code and data from 50,000 examples is tabulated at [url{https://www.math.vt.edu/netmaps/index.php}](https://www.math.vt.edu/netmaps/index.php). This is joint work with W. Floyd and W. Parry.

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