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## A posteriori error estimates based on the Ritz projection of the error for an augmented mixed FEM in plane linear elasticity

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### Abstract

We consider the augmented mixed finite element methods introduced in [2] and [3] for the problem of linear elasticity in the plane with different boundary conditions. We follow [1] and use the Ritz projection of the error to obtain a posteriori error estimates that are reliable and efficient, but that involve a non-local term. A slightly modified analysis allows us to deduce reliable, fully local a posteriori error estimates that are efficient up to those elements where we impose a boundary condition weakly. These new a posteriori error estimates are cheap and easy to implement since they do not involve any jump along the sides of the grid. Numerical experiments illustrate the performance of these a posteriori error estimates and support the theoretical results.

### References

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