

## On the 9-point ILU smoother on triangular grids

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### SUMMARY

This work is focused on the design of efficient multigrid methods for discretizations on triangular grids. For this purpose, a local Fourier analysis is developed. An ILU smoother for the discretization of diffusion problems by linear finite elements on such grids is analyzed. A two-grid Fourier analysis is performed to analyze the behavior of the multigrid method. Numerical test calculations validate the theoretical predictions.

**Keywords:** Geometric Multigrid, Local Fourier Analysis, Triangular grids, ILU smoother

**AMS Classification:** 65N55, 65N12, 65F10

### References

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