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A STUDY OF THE FAST SOLUTION OF THE OCCLUDED RADIOSITY EQUATION*

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Abstract. Consider the numerical solution of the radiosity equation over an occluded surface S using a collocation method based on piecewise polynomial interpolation. Hackbusch and Nowak [Numer. Math., 54 (1989) pp. 463–491] proposed a fast method of solution for boundary integral equations, and we consider the application of their method to the collocation solution of the radiosity equation. We give a combined analytical and experimental study of the 'clustering method' of Hackbusch and Nowak, yielding further insight into the method.

Key words. Radiosity equation, clustering method, collocation, fast solution method

AMS subject classifications. 65R20, 65F99

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