## SCHOOL OF COMPUTER SCIENCE AND SOFTWARE ENGINEERING MONASH UNIVERSITY

## **TECHNICAL REPORT 2001/96**

## Skewness of graphs with small cutsets

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## ABSTRACT

The *skewness* of a graph is the minimum number of edges that have to be removed to leave a planar subgraph. This is complementary, and computationally equivalent, to the Maximum Planar Subgraph problem. In this paper we look at the problem of computing the skewness of a graph with a small cutset. We show how to express the skewness of a graph with a cutset of size at most 4 in terms of skewness of several derived graphs obtained by cutting along the cutset and 'stitching up' afterwards. We conclude with a discussion on possible applications to planarisation.