ERROR ANALYSIS OF GEODETIC NETWORKS

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PREFACE

It has been long shown that the Least Squares method is sensitive against outliers. By nature these outliers need to be detected and removed. For this purpose outlier tests have been used. Nonetheless, these tests have some disadvantages. Due to these disadvantages the use of robust estimation methods is proposed. If the time variation in the state vector is dropped, the Kalman filter is a sequential adjustment, as such, likewise, it is sensitive against outliers. Hence it needs to be robustified. This is done by utilizing robust estimation functions. The mentioned methods may be seen as outlierbusters for gross errors and random errors, however, to quantify the effect of systematic errors robustness analysis ought to be employed. In this study these techniques are outlined.

CONTENTS