同济大学学报自然科学版

工程结构物的抛物面方程回归计算

The Regressive Adjustment of Paraboloid-Equation for Engineer

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中文摘要

工程结构物中的抛物面几何形体一般用于电磁波的发射或接收天线，其反射面需要精确符合设计的抛物面方程，辐射或接收器结构物的施工安装、建成后的精度鉴定和变形监测需要用高精度的电子全站仪测定抛物面上许多离散点的三维坐标。据此，通过抛物圆心拟合、坐标轴平移、抛物面方程回归等一系列运算，得到抛物面方程式和焦距，以满足对抛物面工程结构物的施工安装、精度鉴

英文摘要

Paraboloid figures in engineering construction are generally used for making transmitting or receiving antenna reflective surface must be fitted accurately with the designed parabolic equation and the radiation device must be i Therefore,it is necessary to measure a lot of separate points on the paraboloid using electronic total-station with engineering construction,the estimation of construction precision and the deformation observation after the construc paraboloid opening,the calculation of the plane normal vector,the coordinates transformation,the circle center fitti regress of paraboloid equation are practiced to get the paraboloid equation and its focus to satisfy the requirement estimateion and deformation observation.