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Abstract

The possibility of changes in correlation across a surface suggest that for the most accurate interpolation of data at unsampled locations it may be desirable to perform a priori analysis of data set to determine the nature of correlation between the given sample points.

Two models are used for a priori analysis of data set namely the variogram model and covariance functions. Therefore, the main objective of this research is to compare the efficiency of the two models in data analysis and data interpolation.

Samples of ninety measured points were selected for this test. Using geostatistical analyst of kriging it was found that the variogram model gives better results compared to the covariance functions.

تجريدة

إن إمكانية التغيير في الارتباط للبيانات على أي سطح تتطلب إجراء تحليل مسبق لمجموعة البيانات المتوفرة لتقرير طبيعة ذلك الارتباط ومن ثم استخراج علاقة ذات دقة أكبر لتحديد بيانات العينات غير المعلومة.

هناك نوعين من النماذج تم استخدامها في هذه الدراسة لتحديد هذا الارتباط وهي نموذج التباين ونموذج التغاير وقد تم استخدام هذين النموذجين بغرض مقارنة الكفاءة في تحليل واستكمال البيانات.

تم في هذه الدراسة جمع 90 عينة من القيم المعلومة وتحليلها بالنموذجين باستخدام برنامج نظم المعلومات الجغرافية المتخصص ArcGIS (Geostatistical Analyst) وقد تبين من نتائج البحث أن نموذج التباين يعطي قيماً أفضل مقارنة مع نموذج التغاير.

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