

## 地质统计学在羊拉铜矿储量计算中的应用

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作者	单位	E-mail
<a href="#">余海军</a>	<a href="#">云南省地质调查局, 云南昆明 650051</a>	yhj307@163.com
<a href="#">李文昌</a>	<a href="#">云南省地质调查局, 云南昆明 650051</a> ; <a href="#">昆明理工大学, 云南昆明 650093</a>	
<a href="#">曾普胜</a>	<a href="#">中国冶金地质总局矿产资源研究院, 北京 100025</a>	
<a href="#">尹光候</a>	<a href="#">云南省地质调查局, 云南昆明 650051</a>	

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中文摘要: 本文以云南德钦羊拉铜矿床为例, 借助Surpac矿业软件建立了矿床地质数据库, 并运用地质统计学的方法, 通过分析羊拉5号矿体铜品位分布规律, 计算出了厚度、倾向、三个方向的实验变异函数, 并进行了理论变异函数的曲线拟合, 确立了矿床的数学模型。在此基础上运用克里格法和距离平方反比法分别进行了储量计算, 再结合传统的块段法计算出储量, 将三者进行对比分析, 探讨了三种方法的影响因素及其产生误差的根本原因, 最后认为运用克里格法计算储量具有先进性和使用性。文章还分析了铜矿体的品位-吨位曲线图, 为合理确定经济品位和吨位提供了可靠的理论依据。

中文关键词: [SURPAC软件](#) [地质统计学](#) [储量计算](#) [羊拉铜矿](#)

## The Application of Geostatistics to Ore Reserve Calculation of the Yangla Copper Deposit

**Abstract:** With Surpac software, this paper established a geological database for the Yangla copper deposit. The experimental variation function was calculated in three directions (thickness, dip and strike). Through employing the method of geostatistics, making an analysis of the copper grade of the 5th ore body, and conducting curve fitting the theoretical variable function, the authors established a mathematical model for the Yangla ore deposit. On such a basis, the reserves were calculated by using the Kriging and the inverse square distance methods. In combination with the statistics of reserves calculated by the traditional block method, the three methods were compared with each other. The impact factors of the three methods and the fundamental causes for their errors were discussed. It is found that the Kriging method for reserves calculation is the most advanced and applicable means. This paper has also analyzed the copper grade - tonnage curves for the ore body, and the result can provide a reliable theoretical basis for reasonable determination of economic grade and tonnage in the mine.