The purpose of this study is to determine different Cu mineralized zones using number-size (N-S) fractal modeling in Takht-e-Gonbad porphyry deposit (SE Iran). This deposit is situated about 70 km NE of Sirjan City, SE Iran. In addition, this porphyry deposit is located on the south of Kerman Cenozoic magmatic arc (KCMA), which most of Cu porphyry deposits of Iran occurred in this arc [1]. Based on geological map of Takht-e-Gonbad, Eocene volcanic-pyroclastic rocks and Neogene sediments are the main rock types. Moreover, phyllic alteration is the main alteration type in this deposit and also, hypogene ore zone consists of pyrite, chalcopyrite and minor magnetite and molybdenite.

The number-size fractal model proposed by Mandelbrot [4], can be used to describe the distribution of geochemical population without any pre-processing of data. The model can be expressed by the following equation:

\[ N(\geq r) = cr^{-D} \]

Where \( r \) denotes the element concentration; \( N(\geq r) \) is the cumulative number of concentration greater than or equal to \( r \); \( c \) is a constant and \( D \) is the fractal dimension of the concentration distribution [2].

**Figure 1:** Cu N-S log-log plot in Takht-e-Gonbad deposit
application of logratio matrix. The overlapping results which reveals that the hybrid method is proper for outlining of mineralized zones in the porphyry deposit.

References: