The aim of this research was to verify the possible factors which affect the quality of the interferometric DTM such as aspect (frontal, dorsal, azimuthal, anti-azimuthal), slope (flat, undulated, mountainous), regions in range dimension (near and far range), land use and land cover (agricultural land, pasture, urban area). The study site is located in Brazil and it was divided in homogeneous regions (strata) which features were related to the factors mentioned above. Each stratum was obtained by crossing all the factors layers. It was found 26 strata within the study site. It was evaluated a DTM extracted from X-band images of SAR/R-99 airborne sensor. This sensor is used by the Brazilian Amazonian Protection System (SIPAM). The ground reference was a set of 297 points measured using GPS relative positioning (static survey). The discrepancy was considered the elevation difference between DTM and GPS. The strata did not have any significant differences at the regions of image in range dimension and in the land use and land cover according to specific statistical tests applied. However, the aspect and slope strata were considered to be influential on discrepancies. The strata with mountainous slope showed large variability of errors and the mountainous/frontal-anti-azimuthal stratum tend to underestimate the errors. The undulated/dorsal and azimuthal stratum tend to overestimate the errors with intermediate variability. The individual analysis of all factors demonstrated that the influence between each other justify the use of analysis by strata. Only aspect and slope factors affected the results.