

To investigate the method of using of congruency in geometrical proportions of *SHEIKH LOTFOLAH* Mosque Cupola (Isfahan – Iran)

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Abstract congruency as a geometric relation is among the principle that is observed in structural design of dome and Cupola, design details and ornaments as the dominant method in Iran's Architecture specifically in the architecture of mosques. Application of a numeric coefficient in scale change of 2D and 3D elements in this method associates a procedure likewise single point perspective so that all elements are propelled toward a point on the top of space.

The objective of this research is to investigate the application of this geometric relation (Congruency) in designing Cupola elements and its interior ornaments in Sheikh Lotfollah Mosque. For this, numeral proportion of mouth to partition of arches and the frame height is calculated and analyzed in all corridors and arches to general form of Cupola and also in all interior ornaments of Cupola.

The results of current research indicate that general form of Cupola with congruency coefficients of 0.4, 0.2 and 1 is congruent with the frames and corridors inside Cupola. Besides, this congruency is also observed in tile work inside Cupola that is more palpable in the dome with coefficient of 0.6 and in adytum with coefficient of 0.8. According to this, the congruency in Cupola of Sheikh Lotfollah Mosque is divided to three categories of radial, radial-rotational and radial-annular. Some of the samples of tile works have several types of congruency. The achieved results show that wherever needed to culminate the eye and all elements to a single point – monotheism- the architect has applied congruency in a way that the numeric coefficient that is proportioned to the normal size of elements is implied on existing forms and forms in a different method. And at the end, geometric order and congruencies are highly emanated right under the main dome that is including all types of congruency.

Keywords Geometrical Regularity (congruency), *SHEIKH LOTFOLAH* mosque, cupola.