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## Solar performance of hemispherical vault roofs

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In hot climates, the improvement of comfort by passive solar techniques is a very important issue. In many parts of the world such as the Middle East, vault roofs are widely used in construction. The solar and energy performance of a hemispherical vault roof is studied, including the auto-shading instant effect during several days for different latitudes and throughout the year also. The results are compared with the standard horizontal flat roofing used in the typical modern low-cost housing in Mexico. The hemispherical vault receives around 35% less energy than the flat roof between the equinoxes, besides having other advantages such as a greater ceiling height, natural ventilation and illumination possibilities, and structural stability.<br/>

Palabras clave: Shading, Solar control, Hemispherical vault roof

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