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**Hum Kum** (HunKim@kaist.ac.kr). *On 3-dimensional tiling*. Preliminary report.

In this paper, we studied about mathematical tiling, especially on simple tiling. A tiling of rectangle  $R$  is called simple if no connected set of two or more elements in tiling forms a rectangle strictly inside of  $R$ . We reviewed the simple tiling on 2-dimensions first. Then along with the theorems of those 2-dimensional simple tiling theorems, we applied them to 3-dimensions. We defined simple tiling in three dimensions, discovered the condition of the existence of simple tiling, and found out average volume of the elements in simple tilings. And we will introduce some results about simple tilings using only one type of tilings. (Received September 16, 2008)