

The present work divided into two parts, first the experimental side which included the measuring of the first natural frequency for the notched and unnotched cantilever composite beams which consisted of four symmetrical layers and made of Kevlar- epoxy reinforced. A numerical study covers the effect of notches on the natural frequencies of the same specimen used in the experimental part. The mathematical model for the beam contains two open edges on the upper surface. The effect of the location of cracks relative to the restricted end, depth of cracks, volume fraction of fibers and orientation of the fiber on the natural frequencies are explored. The results were calculated using the known engineering program (ANSYS), the results obtained has been compared with those calculated analytically by (Sierakowski RL.), which have expressed the closest well also the comparison between the experimental results with that calculated by (ANSYS) has very well. The study shows that the highest difference in frequencies occur when the value of the fiber orientation equal to 0degree, the effect of location of the cracks decrease when the cracks moving toward the free end and also shows that an increase of the depth of the cracks leads to a decrease in the values of natural frequencies