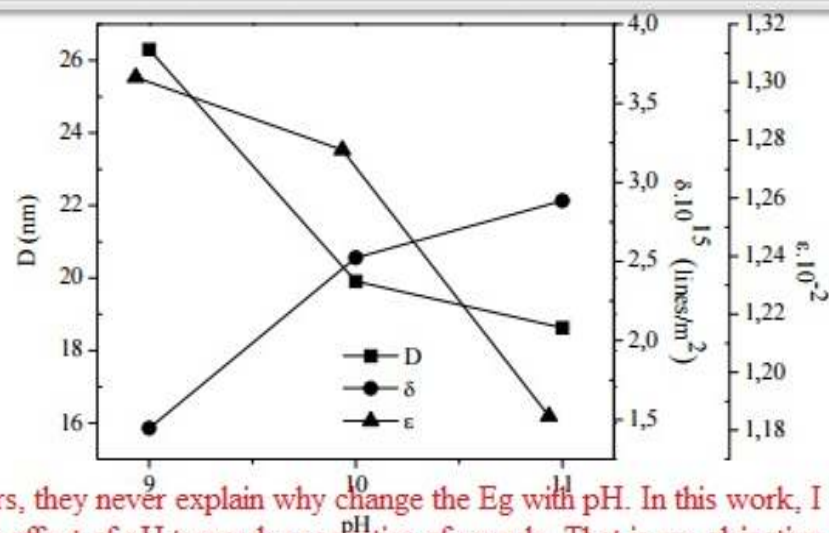




As reported by authors, they never explain why change the E_g with pH. In this work, I want to investigate the affect of pH towards properties of sample. That is my objective.

Fig. 3: Variation of the grain size (D), the dislocation density (δ) and the strain (ϵ) with the pH of the chemical bath.

Quantitative analysis of the film was carried out using the EDX technique to study stoichiometry of the film. EDX analysis results show that Cd and S elements in the starting solution present in the solid film. The detailed results of the EDX analysis are listed in Table 2. It shows that the films deposited at pH 11 were slightly cadmium rich while the films deposited at pH 12 were sulphur rich. It was significant to note that films deposited at both pH 9 and pH 10 is nearly stoichiometric.

3.2. Morphological studies

The surface morphology of the deposited films was investigated by scanning electron microscopy (SEM). Fig. 4 shows the micrographs of CdS thin films deposited at different pH values. From Fig. 4a, The author conclude that CdS film deposited at pH 9 is consists of clusters of up to 22 nm, but clearly these clusters were formed due to a coalescence of small grains of