















content the films showed high magnetic properties. It was due to the addition of urea in the bath which improved the crystalline structure of FePtP films.

#### 4. Conclusion

This experiment was carried out to investigate the magnetic properties of nanostructured FePtP films. It was found that high quality magnetic properties with high coercivity were obtained by doping urea in lower concentration. This is because the urea molecules are found to have leveling effect which ensures uniform orientation of crystals during electrodeposition. Coercivity of the films significantly decreases by increasing the concentration of urea. Hardness of the films is decreased because of increase in urea concentration. It also increases the film stress which is a cause for cracked film. As these types of magnetic films are used in MEMS devices they should have minimum stress. 2.5  $\text{g l}^{-1}$  of urea was found to be the optimum concentration in the bath in order to obtain a FePtP film with improved magnetic, structural and mechanical properties.

#### Acknowledgements

One of the authors T.M. Selvakumari would like to thank Er.D. Sachithanatham, Chairman and Dr.N. Gunasekaran, Principal of Angel College of Engineering and Technology Tirupur for their constant encouragement and kind permission to publish this paper.

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