Investigators at University of Franche-Comte Describe Findings in Materials Science

By a News Reporter-Staff News Editor at Journal of Technology -- Current study results on Materials Science have been published. According to news reporting from Besancon, France, by VerticalNews journalists, research stated, "Columnar Ag:TiN thin films were prepared by d.c. magnetron sputtering with a Ag content of similar to 10 at.% on silicon and glass substrates. The Glancing Angle Deposition, GLAD, technique was implemented to transform the typical columnar microstructure into the desired inclined, zigzag and spiral profiles."

The news correspondents obtained a quote from the research from the University of Franche-Comte, "A periodic variation of the angle of incidence 'alpha' (40 degrees, 60 degrees and 80 degrees) was applied to deposit Ag:TiN thin films with inclined, zigzag and spiral microstructures. The film's electrical properties were studied. Higher alpha values lead to more porous microstructures with column angle beta varying from 13 degrees (alpha=40 degrees) to 30 degrees (alpha=80 degrees) for 8 zigzags. Resistivity, rho, at 293 K or versus temperature was found to be connected to the porosity and beta angles. The more compact films exhibited lower and more stable resistivity values than the more porous ones."

According to the news reporters, the research concluded: "Ag segregation and TiN columnar oxidation are favored by temperature and were also found to depend on the produced architectures."

For more information on this research see: Electrical characterization of Ag:TiN thin films produced by glancing angle deposition. *Materials Letters*, 2014;115():136-139. *Materials Letters* can be contacted at: Elsevier Science Bv, PO Box 211, 1000 Ae Amsterdam, Netherlands. (Elsevier - www.elsevier.com; Materials Letters - www.elsevier.com/wps/product/cws_home/505672)

Our news journalists report that additional information may be obtained by contacting P. Pedrosa, University of Franche Comte, CNRS ENSMM UTBM, UMR CNRS 6174, Inst FEMTO ST, F-25030 Besancon, France. Additional authors for this research include C. Lopes, N. Martin, C. Fonseca and F. Vaz.

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