

# Structure and magnetic properties of magnetic tunnel junctions with Ta/CuN/Ta and Ta/Ru/Ta buffer layers

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Multilayer structures, designed for magnetic tunnel junctions fabrication, were prepared with two different buffer layers: 5 Ta / 50 CuN / 3 Ta / 50 CuN / 3 Ta and 5 Ta / 20 Ru / 3 Ta (thicknesses in nm) and investigated in order to analyze the structural and the magnetic properties. The structure of the samples was as follows: buffer / 16 PtMn / 2.0 Co<sub>70</sub>Fe<sub>30</sub> / 0.9 Ru / 2.5 Co<sub>40</sub>Fe<sub>40</sub>B<sub>20</sub> / 0.6 - 1.1 wedge MgO / 2.5 Co<sub>40</sub>Fe<sub>40</sub>B<sub>20</sub> / 5 Ru. We present strong influence of buffer structure on crystallization of PtMn antiferromagnetic layer, roughness of magnetic layers and interlayer coupling energy.

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