Abstract Template **ISNT 2023**

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**TITLE OF THE PAPER**

(centered, arial, bold, 14)

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Abstract: using 12 size Arial, single-spaced, 200-250 words in length. Paragraph alignment: justified.

Over the last decade, p-type semiconductors (SC) have known a renewed interest. Indeed these materials may have potential applications for light-emitting diodes, transistors, solar cells, etc. Since the achievement of the first Dye Sensitized Solar Cells by Grätzel [1] in 1991 a new generation of solar cells has been developed [2] where the n-type SC is replaced by a p-type one. This leads to the photo-injection of holes instead of electrons in the circuit. To date nickel oxide (NiO) is the reference p-type semiconductor. However yields are still far from those of DSSC-n and many studies aim to replace NiO by other systems such as CuAlO2, CuGaO2, CuCrO2 or NiCo2O4 nanoparticles. Following our recent synthesis of N doped ZnO with stabilization of p-type charge carriers [3], we focus now on the preparation of N doped NiO nanoparticles to improve the p-type conductivity of NiO. We will study here the chemical reactivity of a nickel oxohydroxo precursor under air and ammonia that conducts to nanostructured Ni-poor NiO.

**References (Arial, bold, 12)**

(arial, 11)

[1] B. O'Regan, M. Grätzel, *Nature* 737-740 (1991) 353.

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[3] B. Chavillon, L. Cario, A. Renaud, F. Tessier, F. Cheviré, M. Boujtita, Y. Pellegrin,
 E. Blart, A. Smeigh, L. Hammarström, F. Odobel, S. Jobic, *J. Am. Chem. Soc.* 134 (2012) 464.

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