1075-35-152 **Mihai Mihailescu*** (mmihailes@yahoo.com), 13, A. I. Cuza, 200585 Craiova, Romania, 200585 Craiova, Dolj, Romania. *A maximum principle connected with eigenvalue problems involving variable exponents.*

The main interest of this talk is given by the following maximum principle: *Assume* $\Omega \subset \mathbb{R}$ $(N \geq 2)$ *is an open, bounded and smooth set with smooth boundary. Let* $p : \overline{\Omega} \to (1, \infty)$ *be a continuous function of class* C^1 *in* Ω*. Let* $\overrightarrow{a} : \Omega \to \mathbb{R}^N$ *be a vectorial function of class* C^1 *for which there exists* $a_0 > 0$ *a constant such that* $\operatorname{div}\overrightarrow{a}(x) \geq a_0 > 0$*, for all* $x \in \overline{\Omega}$*. Furthermore, assume that* $\overrightarrow{a}(x) \cdot \nabla p(x) = 0$*, for all* $x \in \Omega$*. Then for each open set* $U \subset \Omega$ *the maximum and the minimum of* p *on* $\overline{U}$ *are achieved on* ∂U*.*

We highlight some connections between the above maximum principle and the fact that under the same assumptions on functions p and $\overrightarrow{a}$ we have $\inf_{u \in C_0^\infty(\Omega)\setminus\{0\}} \frac{\int_\Omega |\nabla u|^{p(x)}\, dx}{\int_\Omega |u|^{p(x)}\, dx} > 0$. (Received August 28, 2011)