



**Marek Wojtowitz** (mwojt@ukw.edu.pl), Institute of Mathematics, Casimir the Great University, Bydgoszcz, 85-072 Poland , *Strict monotonicity and isometries.*

**ABSTRACT.** Let  $E$  and  $F$  be two real Banach lattices, and let the norm  $\|\cdot\|$  on  $E$  be strictly monotone: if  $|x| < |y|$  then  $\|x\| < \|y\|$ ; then we also say that  $E$  is strictly monotone.

**Theorem.** *Within the class of Banach lattices the strict monotonicity is invariant under isometries: If a Banach lattice  $F$  is isometric to a strictly monotone Banach lattice  $E$ , then the norm on  $F$  is strictly monotone too, and the lattices  $E$  and  $F$  are order isometric.*

*In particular, two strictly monotone Banach lattices are isometric iff they are order isometric.*

The proof of the latter property allows us to describe the form of isometries between concrete function spaces.