

**Affine Lie algebras and applications**  
**Ten-minutes problem 9**

Prove that for any  $h$  from the Cartan subalgebra of an untwisted affine Kac-Moody algebra one has

$$s_0 s_\theta(h) = h + \delta(h)h_\theta - (\theta(h) + \delta(h))c.$$