

Exercises to lecture 9 on 10.4.2017

Exercise 31. 1) The mapping

$R_C = \begin{pmatrix} \zeta & \eta \\ -\eta & \zeta \end{pmatrix} : C^\infty(\mathbb{R} \times \mathbb{C}^x) \otimes C^\infty(\mathbb{R} \times \mathbb{C}^x) \rightarrow$
is a homomorphism of $SL(2, \mathbb{R})$ -modules.

2) The Rankin-Cohen deformation
 $\star_{RC} : C^\infty(\mathbb{R} \times \mathbb{C}^x) \otimes C^\infty(\mathbb{R} \times \mathbb{C}^x) \rightarrow C^\infty(\mathbb{R} \times \mathbb{C}^x)$
is a homomorphism of $SL(2, \mathbb{R})$ -modules.

Exercise 32. $\left\| \frac{1}{(z+i)^k} \right\|_k < \infty$ for $k \geq 2$.

Exercise 33. Proportionality constant
 $= 1$.