

$$N = 215 = 5 \cdot 43$$

By the Ibukiyama-Kitayama dimension formula,  
 $\dim(S_4(K(215))) = 97$

By the Skoruppa-Zagier dimension formula and Jacobi restriction,  
the lift dimension of  $S_4(K(215))^+$  is 36  
the nonlift dimension of  $S_4(K(215))^+$  is heuristically 47  
 $\dim(S_4(K(215))^+)$  thus is heuristically 83  
 $\dim(S_4(K(215))^-)$  is heuristically 14

The heuristic dimensions are correct by the spanning results to follow

$\dim(J_{\{2,215\}}^{\{\text{cusp}\}}) = 2$  (Skoruppa-Zagier), so need to span to within 1 dimension

$q = 7$  for TraceDown

After TD( $\text{Grit}(J_{\{4,1505\}}^{\{\text{cusp}\}})$ ) and  $(\text{Grit}(J_{\{2,215\}}^{\{\text{cusp}\}}))^2$ ,  
spanned rank in  $S_4(K(215))^+$  is 83  
spanned rank in  $S_4(K(215))^-$  is 0

After Borcherds products,  
spanned rank in  $S_4(K(215))^-$  is 14

Final spanned rank in  $S_4(K(215))^+$  is 83

Final spanned rank in  $S_4(K(215))^-$  is 14

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$S_2(K(215))$  is determined by Jacobi restriction and the  $H4Ndd(2,+)$  test  
( $H_4(215,2,2)^+ = 0$ )

So  $S_2(K(215)) = \text{Grit}(J_{\{2,215\}}^{\{\text{cusp}\}})$  (dimension 2)