

Mathematisches Institut  
Universität Heidelberg  
April 17  
(Year not written in letter.)

Dear Bill,

Thanks for your letter. I would still like to ask you a few questions about the definitions in my two earlier letters. Perhaps you have the technique to answer them.

- (i) To what extent can you show that over  $\mathbf{C}$  each of the sets  $\Pi_{\{\varphi\}}(G)$  consists of a single element (Zhelobenko!)?
- (ii) To what extent is a true and to what extent can you show that when  $G = \mathrm{GL}(n)$  each of the sets  $\Pi_{\{\varphi\}}(G)$  consists of a single element?
- (iii) Take  $G$  to be quasi-split and split over an unramified extension. Suppose  $\varphi$  factors through the standard map of the Weil group to  $\mathbf{Z}$ . Then does every element of  $\Pi_{\{\varphi\}}(G)$  contain the trivial representation of some maximal compact subgroup of  $G(F)$ ? Conversely does every representation in  $\Pi(G)$  containing the trivial representation of a maximal compact subgroup belong to  $\Pi_{\{\varphi\}}(G)$  for some  $\varphi$  of the above form?

Any comments, intelligent or otherwise, would be welcome. Our address here is

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