

DISCUSSION OF J. MIYAZAWA

1. PROBLEMS FOR THE SECOND SESSION

- (1) (Trace embedding lemma) Show that the knot $K \subset S^3 \subset D^4$ is slice (i.e. bounds a smooth disk in D^4) if and only if the 0-trace $X(K)$ (which is the 4-disk D^4 together with a 0-framed 2-handle attached along K) embeds into S^4 .
- (2) Show that if $K \subset S^3 = \partial(K3 \setminus D^4)$ has unknotting number $u(K) \leq 9$, then K is slice in $K3$.
- (3) Show that all knots are slice in $S^2 \times S^2$ and in $\mathbb{C}\mathbb{P}^2 \# \overline{\mathbb{C}\mathbb{P}^2}$.