ERRATUM

The proof of Lemma 10.2 is incorrect.[1] However, the Lemma is correct (and obvious) when we assume the group G is Zariski dense.

Concerning the results stated in the introduction, only the proof of Theorem 1.4 uses this Lemma. However, this Lemma is actually not necessary not necessary in order to prove Theorem 1.4 as we explain now.

Nevertheless, the fact that we can not use Lemma 10.2 impacts Section 8 and 9 (which are devoted to the proof of Theorem 1.4/4.1) in the following way. In the article, Lemma 10.2 is used in Proposition 8.3, then Lemma 9.1, then the proof of Theorem 4.1/1.4. Below are the required modifications

- in the definition of $\mathcal{A}$, $\mathcal{A}_H$ and $\mathcal{A}_3$ of the beginning of Section 8, one has to replace "S-irreducible" with "Zariski dense".
- with this modification the proof and statement of Proposition 8.3 is the same,
- It follows that Lemma 9.1 reads that $\mathcal{A}_3 \cap \mathcal{A}_H$ is closed in the space of *Zariski dense* representations.
- Section 8.3 and all other statements in Section 8 and 9 remain unchanged (and true under the original assumptions)
- The main part of the proof, namely Lemma 9.2, remains unchanged, as well as all the text after 9.3.

The proofs of Theorem 1.4 and 4.1 in Paragraph 9.1 have to be amended in the following way: using the same argument shows that the hyperconvex representations satisfying Property (H) contains a connected component U of the space of *Zariski dense* Hitchin representation. Since the Hitchin component is smooth, U is dense.

By Lemma 9.2, the closure of U consists of hyperconvex representations. Thus we have proved Theorem 1.4. Theorem 4.1 is proved under the additional assumption that the representation is Zariski dense.

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[1]Note added::Nicolas Tholozan explained me a counterexample: the image by $\mathsf{SO}(3,3)$ of every isotropic 3-plane is not transverse to itself