

Q. of exam 2014:

[A] Give \mathcal{B} , what is the value of curvature. $T = T(\mathcal{B})$ in chiral. limit of \mathcal{B} -pos \Rightarrow \mathcal{B} -pos?

[B] what are singular \mathcal{B} -pos. metric spaces.

\mathcal{B} = sectional = $\tilde{A} = GH$, \mathcal{B} = Abscissa.

\mathcal{B} = Ricci: gen them not well understood, but under way.

\mathcal{B} = scalar cur: IFC?

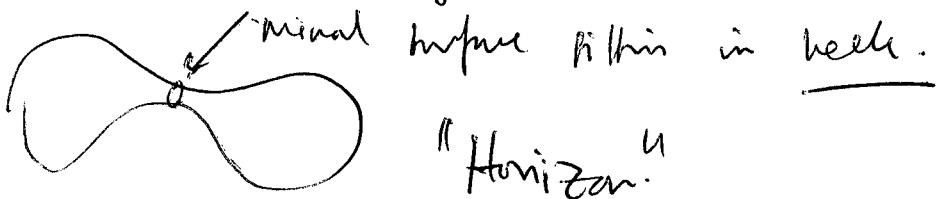
(I) Regions of \mathcal{M} flds with scalar ≥ 0 .



No emergence in C^4 or GH .

What properties of \mathcal{M} flds with non neg scalar
Can you prove?

- intrinsic: spacelike GR.
- could internal minimal surfaces - course cancellation.



(II) Asymptotically Flat M^3 .

Positive mass th^m: (a) scalar $\geq 0 \Rightarrow m_{ADM}(M^3) \geq 0$ and (b) ~~th^m~~.

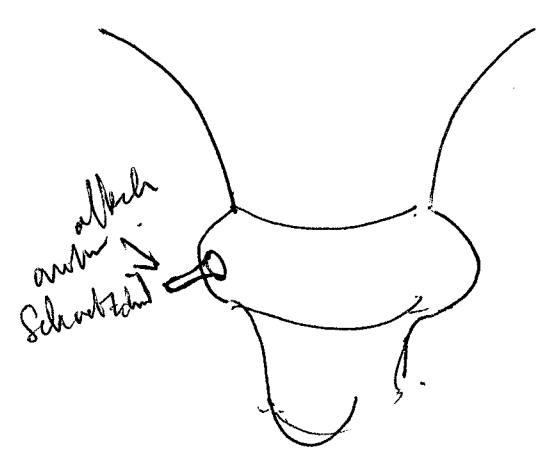
if $m_{ADM}(M^3) = 0$ implies that M^3 isometric to \mathbb{R}^3 .

(just from scalar ≥ 0 , $m_{ADM}(M^3) \geq 0$).



Th^b [see-S] flat-sym. (M_j^3, g_i) , $m_{ADM}(M_j^3) \rightarrow 0$
 $\Rightarrow M_j^3 \rightarrow \mathbb{R}^3$ in \mathbb{E} pointed flat.

problems: arbitrarily wavy wells, pore and problem.



Lee Fuchs - Manduca [MOT] → generalization of
curvature for manifolds with H^1 metric tensors.

• Notion of scalar curvature (synthetic) for non-smooth?

