
GEOMETRISATION
COHERENCE
NERVE of Θ
ABSTRACTION
NERVE of Pair(YX)
YX, B
L, A
G = (YX, B, L, A, μ)
+ CURVATURE H
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BD-HYPERCOHOMOLOGICAL EQUIVALENCES ARISE AS BUNDLE-LIKE STRUCTURES
over COMMON REFINEMENT of RESPECTIVE COVERS
GEOMSTRUCTS AS
34


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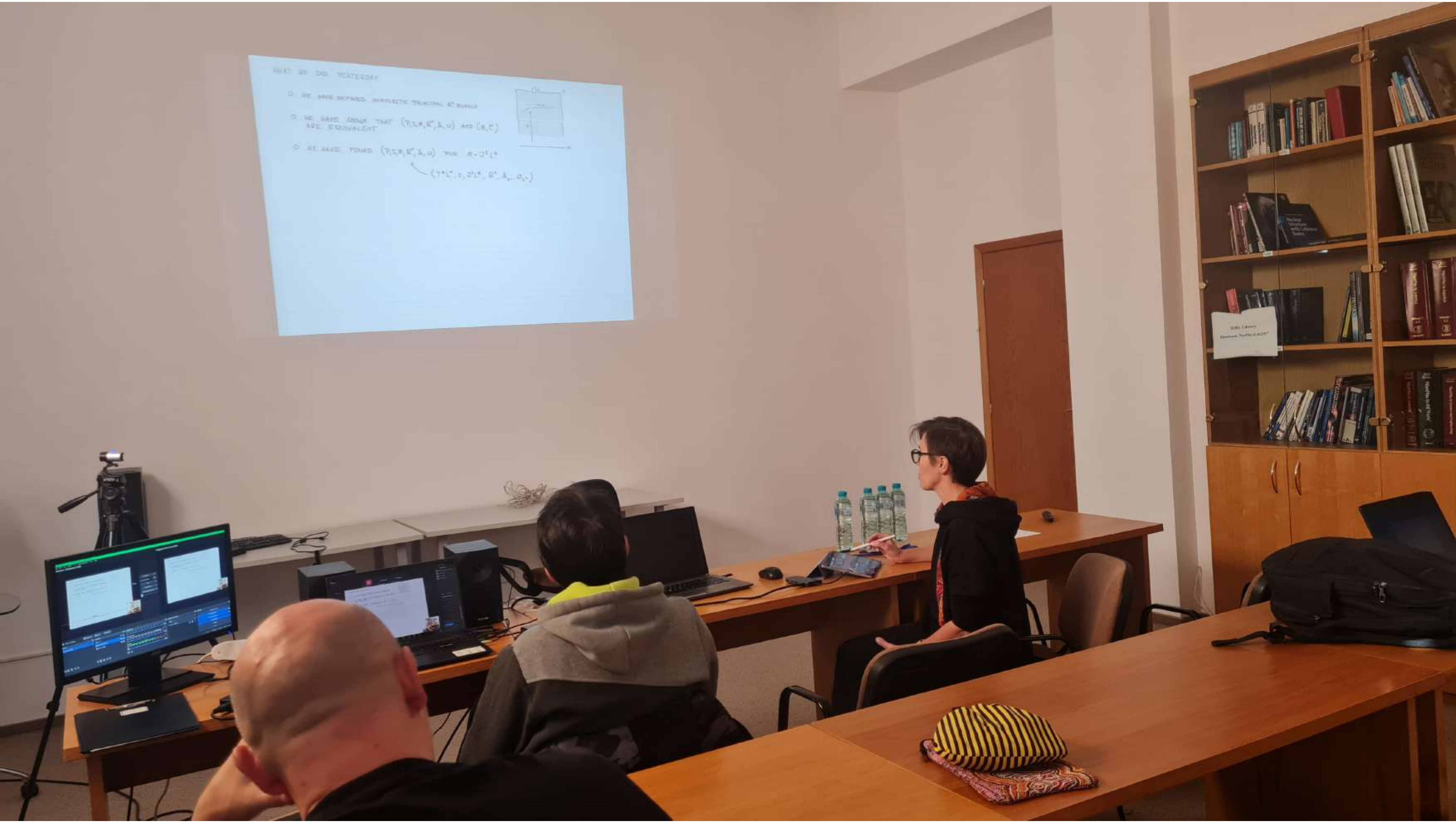
The history of the Universe


The cosmological equation and geometric dynamical system
Define the Hubble parameter $H(t) \stackrel{\text{def.}}{=} \frac{\dot{a}(t)}{a(t)}$ and the rescaled Hubble function:
$\mathcal{H} : T\mathcal{M} \to \mathbb{R}_{>0}$, $\mathcal{H}(u) \stackrel{\text{def.}}{=} \sqrt{||u||^2 + 2V(\pi(u))}$ $\forall u \in T\mathcal{M}$,
where $\pi : T\mathcal{M} \to \mathcal{M}$ is the bundle projection.
Proposition
When $H > 0$, the equations of motion are equivalent with the cosmological equation:
$\nabla_t \dot{\varphi}(t) + \frac{1}{M_0} \mathcal{H}(\dot{\varphi}(t)) \dot{\varphi}(t) + (\mathrm{grad}_{\mathcal{G}} V)(\varphi(t)) = 0$,
together with the Hubble condition:
$H(t) = \frac{1}{3M_0} \mathcal{H}(\dot{\varphi}(t))$
The solutions $\varphi : I \to \mathcal{M}$ of the cosmological equation are called cosmological curves. The cosmological equation defines an autonomous dissipative geometric dynamical system on $T\mathcal{M}$. Any cosmological curve φ defines a cosmological orbit $\mathcal{O}_\varphi : I \to T\mathcal{M}$ given by $\mathcal{O}_\varphi(t) \stackrel{\text{def.}}{=} (\varphi(t), \dot{\varphi}(t))$, which describes the state evolution of this dynamical system.


WHAT WE DID YESTERDAY
WE HAVE SHOWN THAT
ARE EQUIVALENT
WE HAVE FOUND


UPSHOT:
CAN BE EQUIPPED W/ CONNECTION of CURVATURE
= PRESYMPLECTIC FORM of 2d LFT
NB: 1-ISOMORPHISMS
TRANSGRESS to VERTICAL AUTOMORPHISMS of
IMPLICATION:
PREQUANTISABLE MODELS of CHARGED-LOOP DYNAMICS
in BACKGROUND (X,g,H) CLASSIFIED by
⟹ NEED to STUDY HIGHER GEOMETRY of GERBES!
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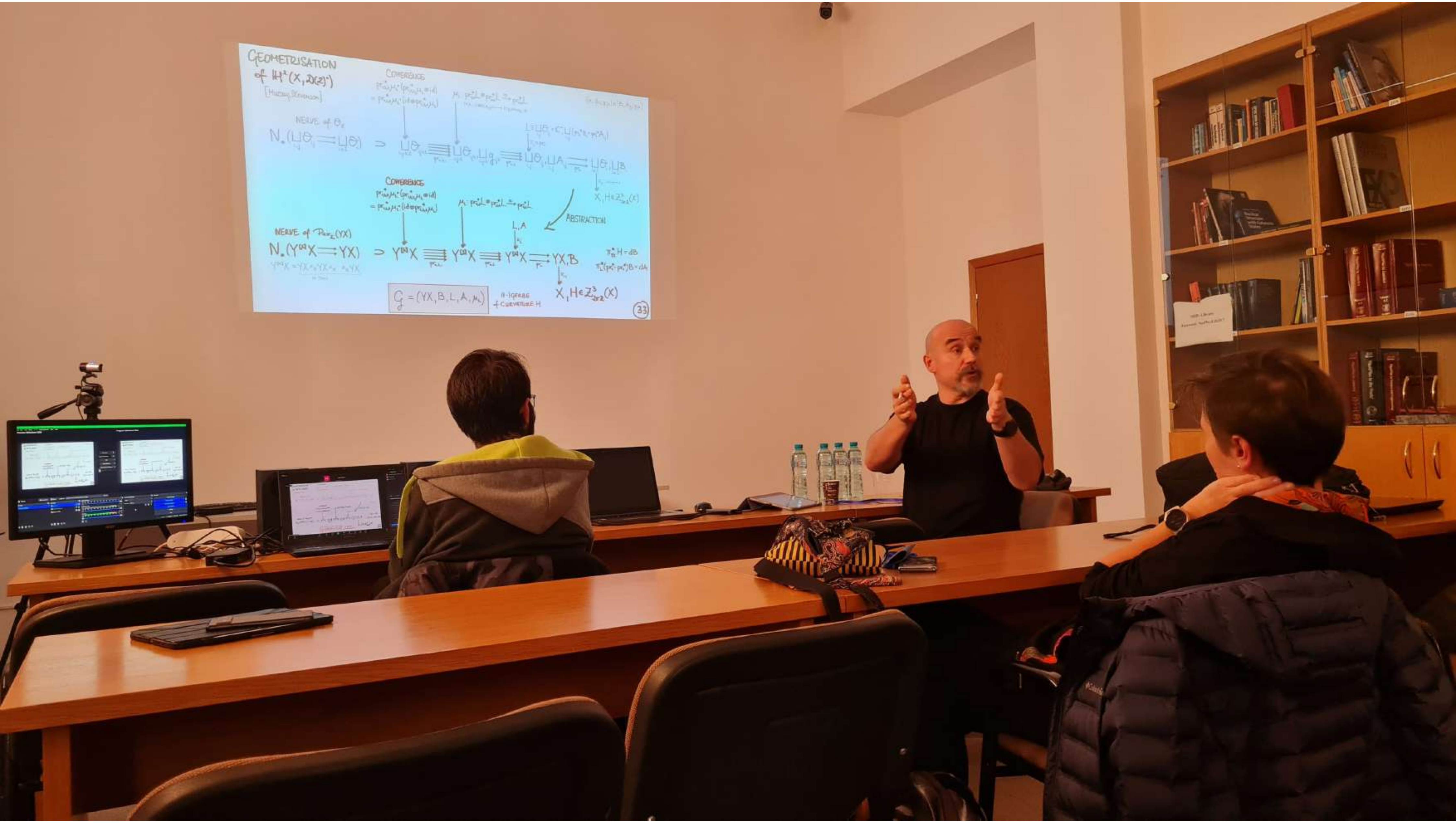
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GEOMETRISATION
COHERENCE
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