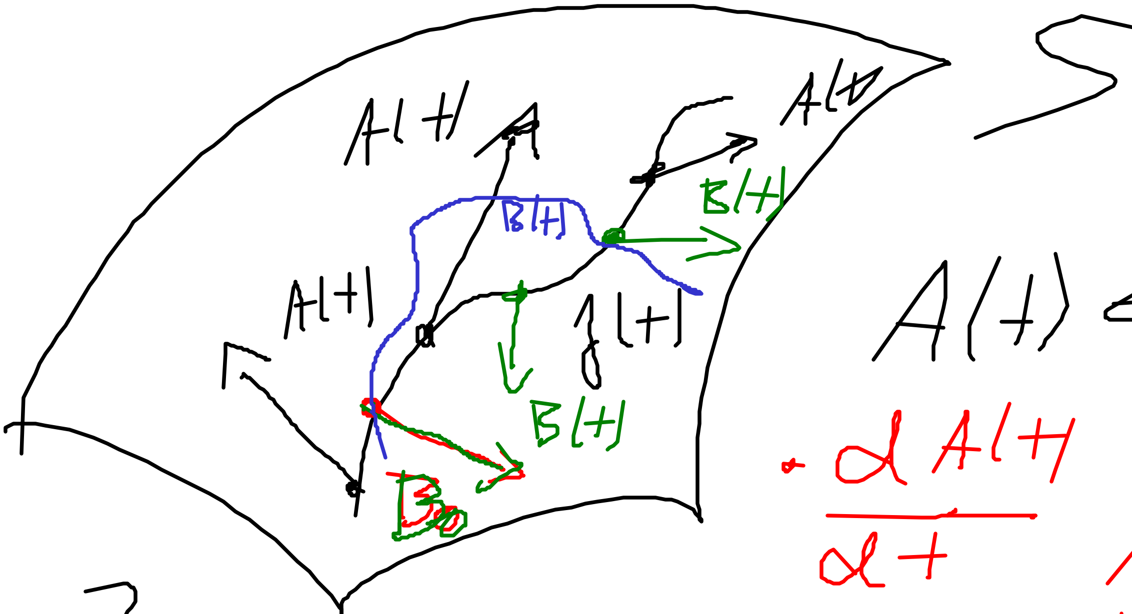


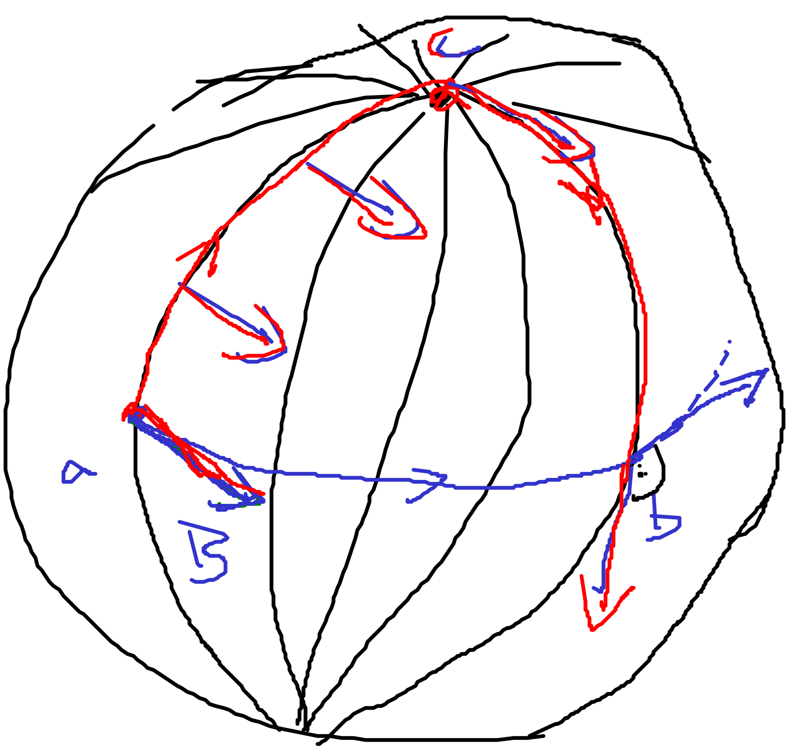
$$A(t) \in T_{\gamma(t)}S$$

$\frac{dA(t)}{dt}$ obecně není tečný k ploše

$$D \subseteq \mathbb{R}^2$$

$$\gamma(t) = f(u_1(t), u_2(t))$$

$$\boxed{\frac{\nabla A(t)}{dt} := \mathrm{Pr}_{T_{\gamma(t)}S} \frac{dA(t)}{dt}}$$



$$f_{11} = \Gamma_{11}^{1} f_1 + \Gamma_{11}^{2} f_2 + h_{11} n$$

$/ (\cdot, f_1)$

$$(f_1, f_{11}) = \Gamma_{11}^{1} g_{11} + \Gamma_{11}^{2} g_{12}$$

$/ (\cdot, f_2)$

$$(f_2, f_{11}) = \Gamma_{11}^{1} g_{12} + \Gamma_{11}^{2} g_{22}$$

Displej (12):

$$\boxed{2\left(\Gamma_{ij}^{1}, \Gamma_{ij}^{2}\right) \cdot \begin{pmatrix} g_{11} & g_{12} \\ g_{21} & g_{22} \end{pmatrix} =}$$

$$= 2\left(\sum_{m=1}^{2} \Gamma_{ij}^{m} g_{m1}, \sum_{m=1}^{2} \Gamma_{ij}^{m} g_{m2}\right)$$

$$\boxed{= \left(\frac{\partial g_{i1}}{\partial u_j} + \frac{\partial g_{1j}}{\partial u_i} - \frac{\partial g_{ij}}{\partial u_1} \;\Big|\; \frac{\partial g_{i2}}{\partial u_j} + \frac{\partial g_{j2}}{\partial u_i} - \frac{\partial g_{ij}}{\partial u_2}\right)}$$

$\square = \square \Big/ \begin{pmatrix} g & \cdots & g\,1z \\ g, z & & g\,z2 \end{pmatrix}^{-1}$