

$$\frac{d}{dt} \sum_{i=1}^n (z_i - E(z_i)) = \frac{d}{dt} \left( \sum_{i=1}^n z_i - \int_0^1 f(x) dx \right)$$

$$= \frac{d}{dt} \sum_{i=1}^n z_i - \frac{d}{dt} \int_0^1 f(x) dx$$

$$= \frac{d}{dt} \sum_{i=1}^n z_i - \int_0^1 f'(x) dx \cdot \frac{d}{dt} \int_0^1 f(x) dx$$

was die Behauptung folgt. □