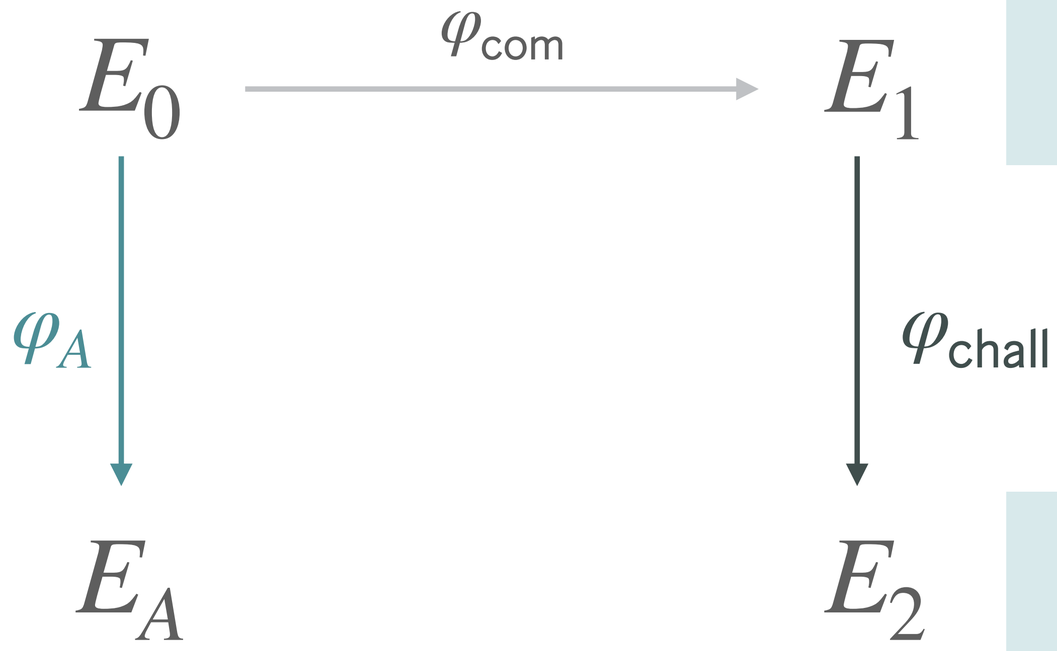
PART 1
SQIsign

Identification protocol

- **Commitment:** random isogeny $\varphi_{\text{com}} : E_0 \to E_1$
- **Challenge:** semi-random isogeny $\varphi_{\text{chall}} : E_1 \to E_2$
- **Response:** "matching" isogeny $\varphi_{\text{resp}} : E_A \to E_2$

everyone knows $\text{End}(E_0)$



only **you** know φ_{com} and $\text{End}(E_1)$

only **you** know φ_A and $\text{End}(E_A)$

only **you** know $\text{End}(E_2)$

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- **Commitment:** random isogeny $\varphi_{\text{com}} : E_0 \to E_1$
- **Challenge:** semi-random isogeny $\varphi_{\text{chall}} : E_1 \to E_2$
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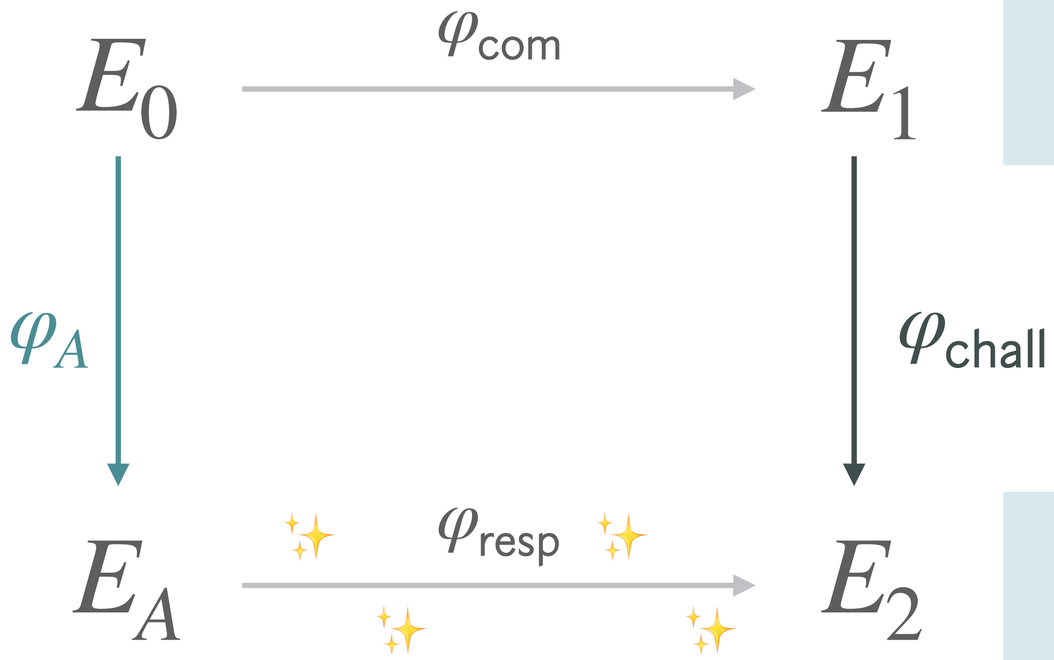
everyone knows $\text{End}(E_0)$

only **you** know φ_{com} and $\text{End}(E_1)$



only **you** know φ_A and $\text{End}(E_A)$

only **you** know $\text{End}(E_2)$

Fact: ONLY, given $\text{End}(E_a)$ and $\text{End}(E_2)$ you can compute a proper response