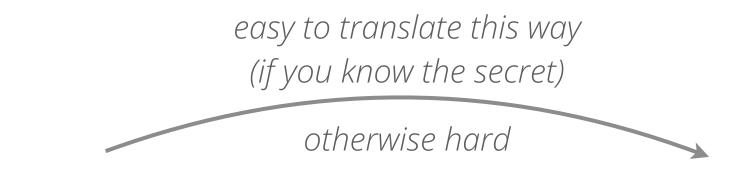
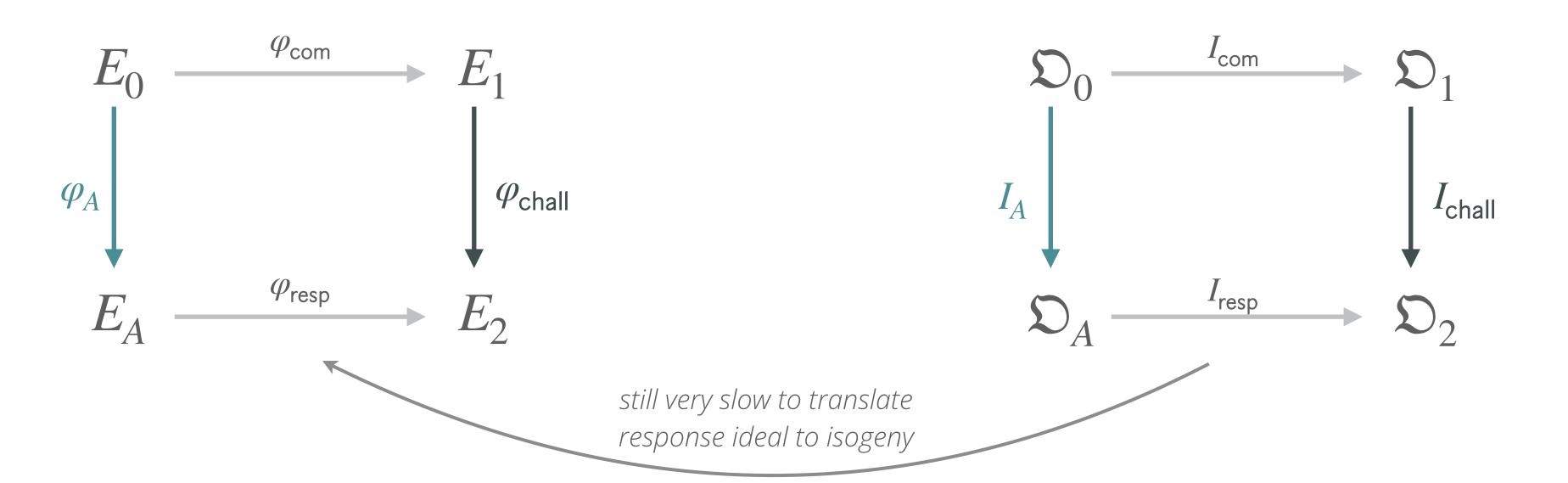
# PART 1 SQIsign



# Elliptic curve world

## **Quaternion world**

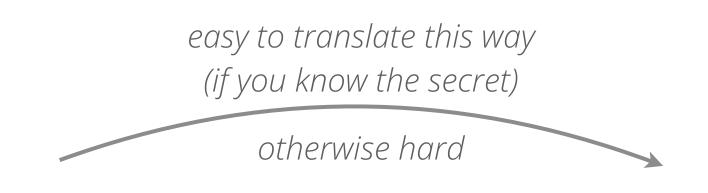


### problem

need to break up  $E_A \to E_2$  into smaller blocks  $E_A \to E^{(1)} \to E^{(2)} \to \dots \to E^{(n-1)} \to E^{(n)} = E_2$  translating to the right blocks is very slow... (NIST SQIsign has 13 blocks)

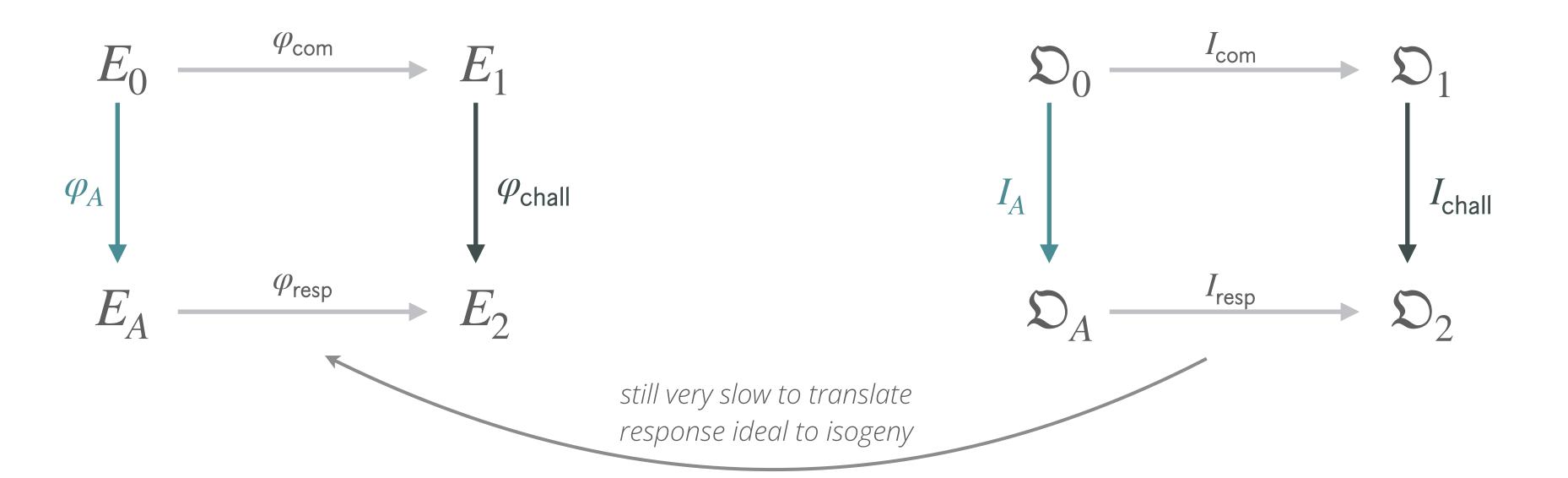


# PART 1 SQIsign



## Elliptic curve world

### **Quaternion world**



#### problem

need to break up  $E_A \to E_2$  into smaller blocks  $E_A \to E^{(1)} \to E^{(2)} \to \dots \to E^{(n-1)} \to E^{(n)} = E_2$  translating to the right blocks is very slow... (NIST SQIsign has 13 blocks)

#### SQIsign2

among others, a much better way to translate  $I_{\rm resp}$  back to  $\varphi_{\rm resp}$  improving speed **per block** 

