



 $\mathcal{A}_{m+1}(K_{pub}^{m+1},K_{pri}^{m+1})$

A) \mathcal{A}_m Send attack mode vote \mathcal{V}_m to \mathcal{A}_{m+1} B) \mathcal{A}_{m+1} Collect all vote $\mathcal{V}_{m \in G}$ determine attack mode m_t

C) \mathcal{A}_m calculate uncertainty score u_{tar}^m of x_{tar}^m

D) \mathcal{A}_m evaluate attack value of x_{tar}^m П E) \mathcal{A}_m send high attack value uncertainty score u_{tar}^m

F) \mathcal{A}_m randomly selects a large random number x Ш

G) \mathcal{A}_m calculates $E(K_{pub}^m, x)$ - u_{tar}^m send to \mathcal{A}_{m+1} H) \mathcal{A}_{m+1} Select N numbers

and randomly select a large prime number P IV $y_u = D(E(x) - i + u), u = 1, 2, \dots N$ $z_{u} = y_{u} \mod p, u = 1, 2, \dots, N$

I) \mathcal{A}_{m+1} Verify if $0 \le a \ne b \le N-1$ Satisfy $||z_a - z_b|| \ge 2$]) \mathcal{A}_{m+1} send $p z_u, u = 1, ... N$ to \mathcal{A}_m VI

K) \mathcal{A}_m verify if $z_i \equiv mod p$ VII then $u_{tar}^m \leq u_{tar}^{m+1}$ else $u_{tar}^m \geq u_{tar}^{m+1}$