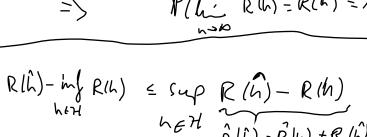
$$\int_{\lambda} \hat{R}(h) = \int_{\lambda=0}^{\infty} \sum_{j=1}^{\infty} L(h(X_j), Y_j)$$

$$fo show: P(\lim_{h\to\infty} \hat{R}(h) = R(h)) = \Lambda$$

$$\int_{\lambda} \{\xi\} = \{u \mid I(\hat{R}(h) - R(h)) > \xi\}$$

An(2)= {w/	/ R(h) - R(h) > {}	
	$=\frac{1}{n}\sum_{n=1}^{\infty}\left[(h X_{n}),Y_{n}\right]$	
= R(L)	= P/L) 2: [[0]	

W	[8)- {w / R(h) - 12(h) > { }
	1 5
	$=\frac{1}{2}\sum_{i}(h X_{i}),Y_{i})$
	= R(h) = R(h)
\	$= \frac{1}{n} \sum{i=1}^{n} \lfloor (h X_{i}), Y_{i} \rfloor$ $= R(h) = R(h) 2. \in [0, n]$ $P(\overline{2}_{n} - F[\overline{2}_{n}]) = 2 \leq 2 e^{-2n \cdot 2^{2}}$
=)	"(1 tn - 122n) > 28 5 2 e 2013



2]
$$R(h) - \inf_{h \in \mathcal{H}} R(h) \leq \sup_{h \in \mathcal{H}} \underbrace{R(h) - R(h)}_{h \in \mathcal{H}} \underbrace{R(h) - R(h)}_{\leq 0} + \underbrace{R(h) - R(h)}_{\leq 0} + \underbrace{R(h) - R(h)}_{\leq 0}$$

$$\begin{cases}
\frac{1}{1} \left(\frac{1}{2} - \frac{1}{2} - \frac$$

Z= 2×7, Z; (X; /i), z=ky)

=>
$$P(R(h) - \hat{R}(h) > 2R_n(L,H) H) \le e^{-2nt^2}$$

ourlog: $P(\hat{R}(h) - R(h) > 2R_n(L,H) + t)$
=> $P(R_n | R(h) - \hat{R}(h) | > 2R_n(L,H) + t)$
 $\le 2e^{-2nt^2} + 1 = \frac{e_{op}(2/\delta)}{2n}$

3)
$$H \in H_{\rho}$$
! $H = \alpha + span \{V_{n_{m_{1}}}, v_{\rho}\}$
 P_{H} : $||x - P_{H}|x|||^{2} = \inf ||x - v||^{2}$
 $= \min_{\lambda \in H} ||x - ||_{\alpha} + ||_$

$$\nabla_{\alpha} T(\alpha_{1} V_{1} S) = -2 \sum_{j=1}^{m} (X_{j} - \alpha_{j} - V_{j}^{-1}) = 0$$

$$= -2 (m \times - m \alpha)$$

$$= \sum_{j=1}^{n} \sum_{j=1}^{m} X_{j}$$

$$= \sum_{j=1}^{n} \sum_{j=1}^{m} X_{j}$$

$$= \sum_{j=1}^{m} \sum_{j=1}^{m} X_{j}$$

$$= \sum_{j=1}^{m$$

$$\sum_{V_{1}, V_{p}} \frac{1}{|X_{1}|} - (\overline{X} + V V^{T}(X_{1}, -\overline{X}))|^{2}$$

$$= \min_{V_{1}, V_{p}} \frac{1}{|X_{1}|} + |X_{1}| + |X_{1}| + |X_{1}|$$

$$= \min_{V_{1}, V_{p}} \frac{1}{|X_{1}|} + |X_{1}| + |X_{1}|$$

$$= \min_{V_{1}, V_{1}} \frac{1}{|X_{1}|} + |X_{1}| + |X_{1}|$$

$$= \min_{V_{1}, V_{2}} \frac{1}{|X_{1}|} + |X_$$

Lactive (PCA)

VK = NK

$$\sum_{j=1}^{\infty} \|y_{j} - vv_{j}\|^{2} = 4r((y - vv_{j})^{T}(y - vv_{j}))$$

$$= 4r((y_{j}) - 4r((y_{j})^{T}(y - vv_{j}))$$

$$= 4r((y_{j})^{T}) = 4r(c)$$

$$= 4r((u_{j})^{T}) = 4r(l_{j})$$

 $F(\lambda) = \sum_{i=1}^{N} \lambda_{i}$ $F(\lambda) = \sum_{i=1}^{N} \langle v_{i}, \langle v_{i} \rangle \longrightarrow \max_{i=1}^{N} \frac{1}{\sqrt{v_{i}}}$