$$= \sum_{\nu} \int_{\partial B_\epsilon(p_\nu)} \frac{P(A_{p_\nu})}{\det A_{p_\nu}} \beta(v, \bar{v}) \quad \text{where } A = \left(\frac{\partial v^i}{\partial z_j}\right)$$

$$= \sum_{\nu} \frac{P(A_{p_\nu})}{\det A_{p_\nu}}$$

by the Bochner - Martinelli formula. Q. E. D.

$$\int_M P\left(\frac{\sqrt{-1}}{2\pi}\Theta\right) = \int_{M - \cup B_\epsilon(p_\nu)} P\left(\frac{\sqrt{-1}}{2\pi}\Theta\right) \quad \left(\begin{array}{l}\text{since } \Theta \equiv 0 \text{ in } B_\epsilon(p_\nu) \\ \Rightarrow P\left(\frac{\sqrt{-1}}{2\pi}\Theta\right) \equiv 0, \text{ too.}\end{array}\right)$$

$$= \int_{M - \cup B_\epsilon(p_\nu)} \left(\frac{\sqrt{-1}}{2\pi}\right)^n P(\Theta) = \left(\frac{\sqrt{-1}}{2\pi}\right)^n \int_{M - \cup B_\epsilon(p_\nu)} P(\Theta) = \left(\frac{\sqrt{-1}}{2\pi}\right)^n \int_{M - \cup B_\epsilon(p_\nu)} -\bar{\partial}\Phi$$

$$= \left(\frac{\sqrt{-1}}{2\pi}\right)^n \int_{M - \cup B_\epsilon(p_\nu)} -d\Phi = \left(\frac{\sqrt{-1}}{2\pi}\right)^n \sum_{\nu} \int_{\partial B_\epsilon(p_\nu)} \Phi = +\sum_{\nu} \int_{\partial B_\epsilon(p_\nu)} \left(\frac{\sqrt{-1}}{2\pi}\right)^n \Phi$$

$$= -\sum_{\nu} \int_{\partial B_\epsilon(p_\nu)} \frac{P(E)(p_\nu)}{\det A_{p_\nu}} \beta(v, \bar{v}) \underset{\Uparrow}{=} -\sum_{\nu} \frac{P(E)(p_\nu)}{\det A_{p_\nu}}$$

$$\int_{\partial B_\epsilon(p_\nu)} \beta(v, \bar{v}) = 1$$

$$= (-1) \sum_{\nu} \frac{(-1)^n P(A_{p_\nu})}{\det A_{p_\nu}} = (-1)^{n+1} \sum_{\nu} \frac{P(A_{p_\nu})}{\det A_{p_\nu}}$$

Griffiths & Harris were confused by signs all the time. ⅃

As an example of a computation involving the Bott residue theorem, we calculate for the third (and last) time the Chern classes of projective space. Let $X = (X_0,$