







**roof:** Let  $f : (X, \tau) \rightarrow (Y, \sigma)$  be a mapping from an IF-topological space  $X$  to an IF-regular space  $Y$ . In view of Theorem 4.1, we know that if  $f$  is an IF-continuous map, then it is an IF-weakly continuous map. Therefore to prove the theorem, it is sufficient to show that if  $f$  is an IF-weakly continuous, then it is an IF-continuous map, where  $Y$  is an IF-regular space. Let  $A$  be any IF-open set in  $Y$ . Since  $Y$  is an IF-regular space, then

$$A = \bigcup A_\alpha, A_\alpha \in \sigma \text{ and } Cl A_\alpha \leq A, \text{ for each } \alpha \in \Lambda \quad (5.5)$$

Now if  $f$  is an IF-weakly continuous mapping and  $A_\alpha \in \sigma$ ,

$$\text{we have } f^{-1}(A_\alpha) \leq \bigcup Int f^{-1}(Cl A_\alpha), \alpha \in \Lambda \quad (5.6)$$

$$f^{-1}(A) = f^{-1}(\bigcup A_\alpha) = \bigcup f^{-1}(A_\alpha)$$

$$\leq \bigcup Int f^{-1}(Cl A_\alpha), \text{ by (5.6)}$$

$$\leq \bigcup Int f^{-1}(A) \text{ by (5.5)}$$

$$= Int f^{-1}(A)$$

$$\text{Hence } f^{-1}(A) = Int f^{-1}(A)$$

which shows that  $f^{-1}(A)$  is an IF open set in  $X$ . Therefore  $f$  is an IF continuous map.

## 6. Conclusion

In this paper, we have introduced the IF-almost continuity and IF-weakly continuity in IF-topological spaces. We have also studied the IF-semi regular space and IF-regular space and significant results are obtained.

These results may prove to be the pathway for the study of IF-almost continuous and IF-weakly continuous maps in any IF-topological space or in an IF-semi regular or IF-regular topological space.

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