

FUNCTION DIRE(X,Y)

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C-----  
C  calculates vector direction (in degrees) from the (u,v) wind  
C  components  
C-----  
IF(X.EQ.0.0)THEN  
  IF(Y.GT.0.0)THEN  
    DIRE=180.  
  ELSEIF(Y.EQ.0.0)THEN  
    DIRE=0.  
  ELSE  
    DIRE=360.  
  ENDIF  
ELSE  
  DIRE=ATAN(Y/X)*180./3.14159  
  IF(X.GT.0.0 .AND. Y.GT.0.0) THEN  
    DIRE = 270. - DIRE  
  ELSEIF (X.GT.0.0 .AND. Y.LT.0.0) THEN  
    DIRE = 270. - DIRE  
  ELSEIF (X.LT.0.0 .AND. Y.GT.0.0) THEN  
    DIRE = 90. - DIRE  
  ELSEIF (X.LT.0.0 .AND. Y.LT.0.0) THEN  
    DIRE = 90. - DIRE  
  ENDIF  
ENDIF  
RETURN  
END
```