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INTEGRATION OF A MULTIZONE AIRFLOW MODEL INTO A THERMAL SIMULATION PROGRAM

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SUMMARY
An existing computer model for dynamic hygrothermal analysis of buildings has been extended with a multizone airflow model based on loop equations to account for the coupled thermal and airflow in natural and hybrid ventilated buildings.

CONCLUSIONS
The first experience with using the loop equations appears promising. Solving the equation system requires only few iterations to convert, typically less than 3, and no problems with converging has been detected in this preliminary stage.

LOOP EQUATIONS

\[ \Delta P_{\text{loss}} = \Delta P_{\text{buoyancy}} + \Delta P_{\text{wind}} \]

BSIM USER INTERFACE

VERIFICATION OF THE AIR FLOW MODEL

BSIM DATA MODEL OF A BUILDING