IMPORTANCE OF INCIDENT SOLAR RADIATION ON THE DESIGN OF FAÇADES

CASE STUDY: LABAN CENTRE FOR CONTEMPORARY DANCE - LONDON - HERZOG & DE MEURON

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OBJECTIVE: ANALYZING AND MEASURING THE DIFFERENCE OF INCIDENT SOLAR RADIATION DUE TO THE FACING OF THE BUILDING FAÇADES AND THE INFLUENCE OF THE SURROUNDING AREA

WHAT DO WE NEED?:
- SITUATION: 51° 21' 48.89" NORTH LATITUDE - 0° 18' 30.00" WEST LONGITUDE
- FACING OF THE BUILDING
- BUILDING FORM
- MODEL ACCURACY
- CLIMATE DATA
- INFLUENCE OF THE SURROUNDING AREA
- EXTRATERRESTRIAL SOLAR RADIATION TO ELIMINATE POLLUTION INFLUENCE, CLOUDINESS, ETC.
- REAL INCIDENT RADIATION IS 18.46 % OF THE EXTRATERRESTRIAL

ANALYSIS

TOTAL INCIDENT SOLAR RADIATION ON EACH FAÇADE

INCIDENT SOLAR RADIATION PER SQUARE METRE ON EACH FAÇADE

COMPARISON OF THE INCIDENT SOLAR RADIATION RECEIVED WITH AND WITHOUT THE INFLUENCE OF THE SURROUNDING AREA

SUMMARY

INCIDENT SOLAR RADIATION - AVERAGE DAILY FAÇADE W

CONCLUSION: DUE TO THE LARGE DIFFERENCE OF INCIDENT SOLAR RADIATION RECEIVED BY EACH FAÇADE, IT IS NECESSARY TO DESIGN DIFFERENT SOLUTIONS OF FAÇADE FOR BETTER ENERGY USE