

THE DOME AUTOMATIONS OF ATA50 AND MASS-DIMM TELESCOPES FOR DAG PROJECT

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RESUMEN

En el ámbito del proyecto del Observatorio del Este de Anatolia (DAG), el equipo técnico del DAG ha realizado varios estudios automáticos para cúpula, cámara, instrumental atmosférico, etc. Las cúpulas de los telescopios ATA50 y MASS-DIMM tienen sistemas de apertura casi similares. Ambos telescopios operarán en modo robótico al tiempo que el control de sus cúpulas se haga de manera autónoma, presentándose en este trabajo los desarrollos realizados por el referido equipo técnico.

ABSTRACT

In the scope of Eastern Anatolia Observatory (DAG) Project, The DAG Technical Team has carried out various automation studies like dome, camera, atmospheric equipments, etc. The domes of ATA50 and MASS-DIMM Telescopes have almost similar opening systems. Both telescopes will run as robotic very soon; therefore it's mandatory and inevitable to make the automations of their domes. The automation studies as its electronics and software developed by DAG Technical Team are presented.

Key Words: instrumentation: miscellaneous — telescopes

1. INTRODUCTION

In the scope of DAG project, we, as the DAG technical team, have carried out some automation studies like camera, dome, atmospheric and astronomical instruments. Two of these studies are the automations of the domes of ATA50 and MASS-DIMM telescopes as shown in Fig. 1 and Fig. 2, for the DAG site. These telescopes have to run as robotic in the DAG site. So, the automations of their domes are needed, especially. The control softwares of the automation studies are shown in Fig. 3 and Fig. 4.

2. SYSTEM

The System specifications of the dome are given in Table 1.

3. MASS-DIMM AND ATA50

4. CONCLUSIONS

The dome automation studies as electronics and software were designed and developed by the DAG technical team for the future similar studies in the scope of the DAG project.

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Fig. 1. The dome system designed for MASS-DIMM



Fig. 2. ATA50 Telescope building

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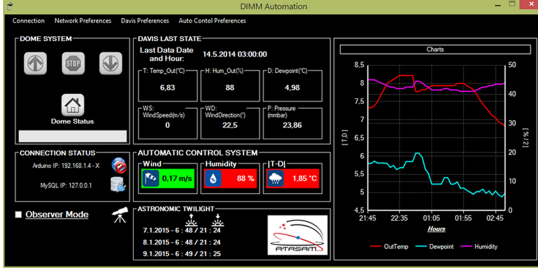


Fig. 3. Software's main screen

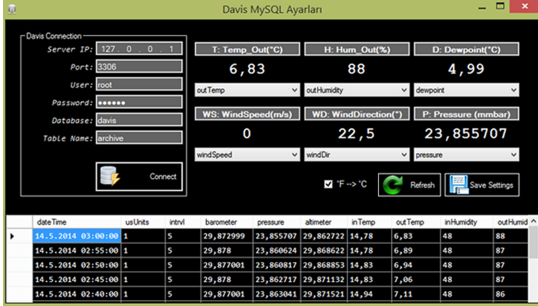


Fig. 4. Software's Weather Control screen

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TABLE 1

System	
Trigger Circuit	8 Relays
Roof on-off operation	5 relays
Light on-off operation	2 relays
Air Condition on-off operation	1 relay
Programming Language	
Language	C#
	Cards
Arduino Yun	
Special Control Circuit	
Operating Modes	Opening and closing mode according to the atmospheric conditions, Opening and closing mode manually, Opening and closing mode with a time schedule, Fast closing mode / emergency mode