



## The Leading Expert in *SPACE RADIATION* Shielding Solutions



SPACE & BEAN provides optimal shielding technology to ensure that commercial off-the-shelf (COTS) electronic components can operate reliably in harsh space radiation environments.

We specialize in space radiation environment analysis and offer shielding solutions at the component and module levels.

Currently, we are developing an ADCS for CubeSats operating in low Earth orbit, and we are expanding this into space radiation environment verification services.

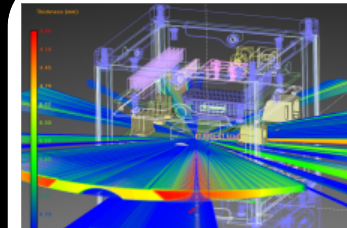
- COTS Component Space Radiation Environment Analysis
- ADCS for CubeSat
- Reaction Wheel
- TID, SEE Test

### Partnership

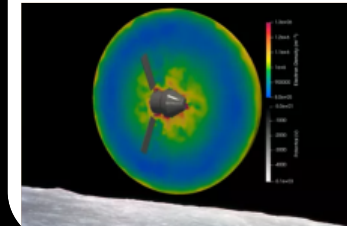
ASPINA



## COTS Component Space Radiation Environment Analysis



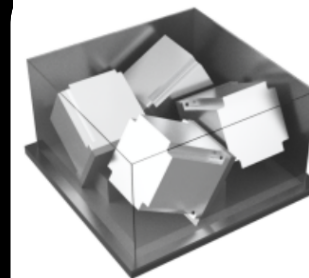
Small Satellite Structure  
Radiation Vulnerability  
Analysis (3D Modeling)



Small Satellite  
Surface Plasma Analysis

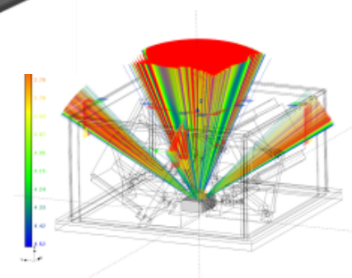
## ADCS for CubeSat

“ASPINA와 SPACE & BEAN의 Collaboration:  
Reaction Wheel 개발 전문성과 우주 방사선 솔루션의 융합



ADCS  
(Attitude determination  
and control system)

Space Radiation  
Vulnerability Analysis



ASPINA is a 106 year old Japanese actuator technology company developing reaction wheels, space-grade stepper motors, and ECLSS components.

## Reaction Wheel

HIGH PRODUCTION CAPACITY  
SHORT LEAD TIME  
COMPETITIVE PRICING  
LOW DISTURBANCE  
LIGHT WEIGHT  
HIGH POWER EFFICIENCY



ARW-3m



ARW-0.35m

MODEL	ARW-3m	ARW-0.35
MAX ANGULAR MOMENTUM	3mNms	0.35Nms
MAX OUTPUT TORQUE	1mNm	15mNm
STANDBY POWER CONSUMPTION	0.2W	0.5W
POWER DRAW AT CONSTANT SPEED	0.6W @ 6k RPM	3.5W @ 6k RPM
MAX POWER CONSUMPTION	2.5W	15W
MASS	72g	1kg
ENVELOPE	30x30x28 mm	100x100x80 mm
SUPPLY VOLTAGE	9 to 12V	18 to 34V
OPERATING TEMPERATURE	-30 to 70°C	-20 to 50°C
RADIATION (TID)	>30krad	20krad
MISSION LIFE	2 YEARS	5 YEARS
COMMAND/TELEMETRY	I2C	RS485
CONTROL MODE	SPEED or TORQUE	

## 전자소자 TID, SEE Test

### TID Test



### 자동 테스트 기기



### 전자소자



Contact Us

SNB@spacenbean.com