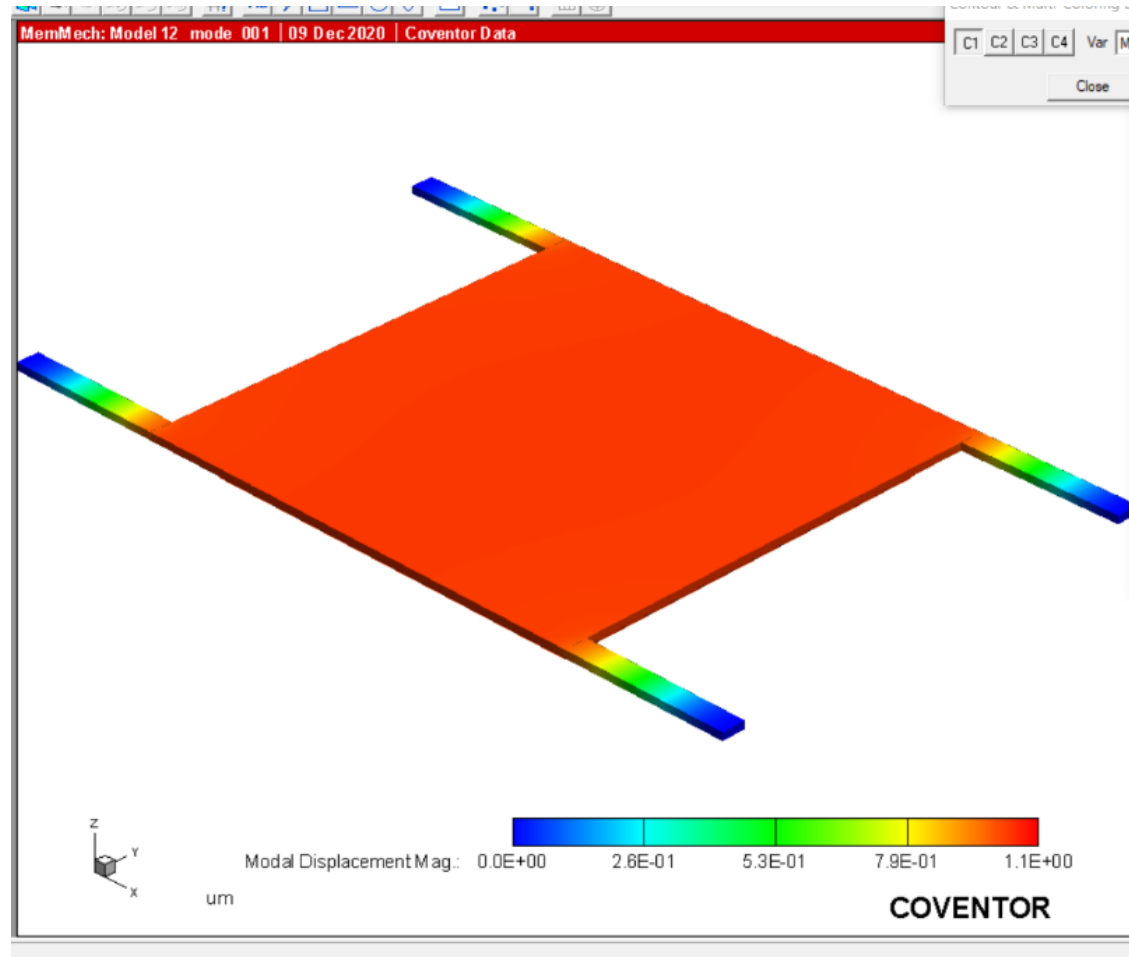
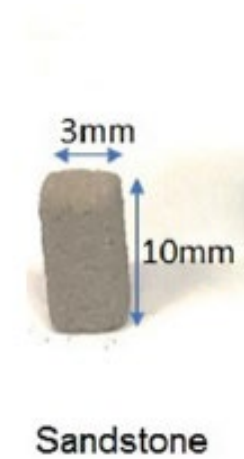
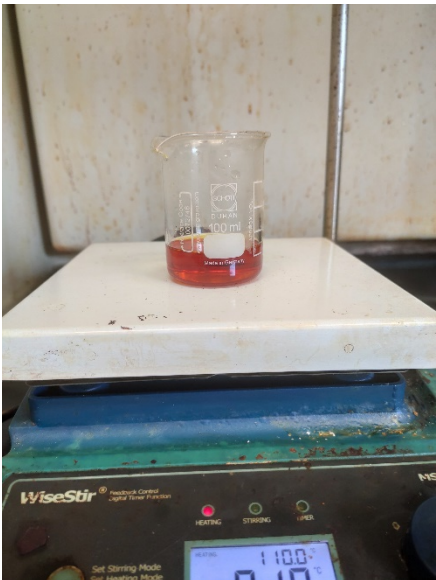


NAMA PROJEK MODELLING AND SIMULATION OF A LOW-FREQUENCY VIBRATION SENSOR BASED ON CMOS MEMS RESONATOR
UNIVERSITY TEKNOLOGY PETRONAS



NAMA PROJEK EFFECT OF CALCINATION TEMPERATURE FOR THE SYNTHESIS OF BIFEO₃ NANOPARTICLES ON THE DIELECTRIC AND MAGNETIC PROPERTIES

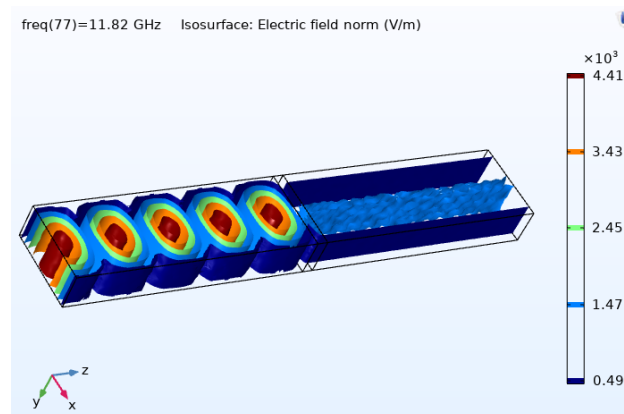
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Sandstone



BiFeO₃
nanofluid



NAMA PROJEK WASTE TO HEALTH UNIVERSITY TEKNOLOGY PETRONAS



WASTE TO HEALTH : THE ABSORPTION OF CARBON DIOXIDE BY COCKLE SHELLS

Group Members:
Najihah Mazlan (Bachelor of Science in Applied Chemistry Hons.)
Muhammad Izzat Hazim (Bachelor of Engineering in Petroleum Engineering Hons.)

The project starts with our determination to benefit waste material for environmental use. For the environmental issue, we have identified a small but significant practice in Malaysia, hazardous gases. Hazardous gas such as CO_2 has been a prolonged issue that is affecting our health without treating it. Since this is affecting the people surrounding here then we thought about the feasibility of "neutralizing" it by incorporating unused material in lessening the issue. For that, we came out to make use of cockle shells and eggshell, wasted material containing a high level of calcium carbonate to aid in neutralizing the CO_2 gas. That is where our project title comes from, "Waste to Health".

PROBLEM STATEMENTS

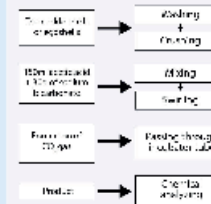
- 1) Hazardous gas released from the smoke, waste or industrial activity may affect our health.
- 2) A lot of cockle shells waste had been dumped and left untreated around the muddy coastal in Malaysia.
- 3) Low air quality may lead to bad health condition.
- 4) High intensity of CO_2 may lead to green gas house effect and acidic rain.

OBJECTIVES

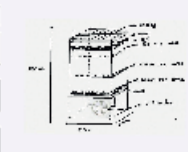
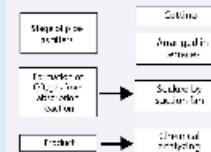
- 1) To investigate the air quality before and after applying the cockle shell
- 2) To investigate the effectiveness of the product
- 3) To evaluate the economical value of the product

METHODOLOGY

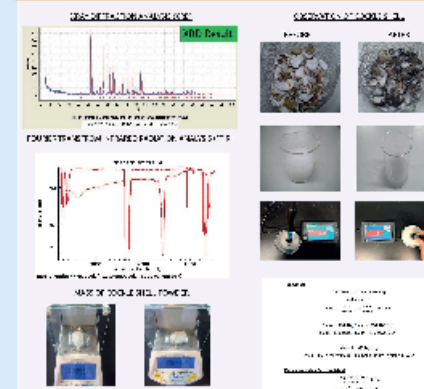
ABSORPTION EXPERIMENT



PROTOTYPE EXPERIMENT



RESULTS & DISCUSSIONS



ECONOMIC CONSIDERATIONS

Cost consideration			
Material	Quantity	Unit Price	Total Cost
Cockle shell	100g	0.05	5.00
Egg shell	100g	0.05	5.00
Filter paper	100g	0.05	5.00
Glue	100g	0.05	5.00
Other material	100g	0.05	5.00
Total			25.00

Altimeter consideration			
Material	Quantity	Unit Price	Total Cost
Cockle shell	100g	0.05	5.00
Egg shell	100g	0.05	5.00
Filter paper	100g	0.05	5.00
Glue	100g	0.05	5.00
Other material	100g	0.05	5.00
Total			25.00

CONCLUSIONS

- 1) The effectiveness of the cockle shell as an absorbent is very efficient
- 2) Creating and producing more affordable and environmental friendly air filter by using waste products into something more beneficial
- 3) Giving the idea of how can we handle greenhouse gases problem in the future with a safer and cheaper way
- 4) Low quality of air can affect our health

RECOMMENDATIONS

- DESIGN : Produce a better design to attract consumer to buy our product
- FUNCTION : Instead of focus on filtering the air only, we can add on some other function which release some fresh and fragrant air
- MATERIALS : Use better material to make sure the filter works fine such as the usage of cotton gauze

NAMA PROJEK CONDUCTIVITY STUDIES OF PLASTICIZED POLYACRYLONITRILE/METHYLCELLULOSE
BLEND BASED ELECTROLYTES
UNIVERSITY TEKNOLOGY PETRONAS

