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PROFITABLE WASTE OIL BURNINGSYSTEM

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Abstract— **By autonomously navigating the water's surface, Sea swarm proposes a new system for ocean-skimming andoil removal. Sea swarm uses a photovoltaic-powered conveyor belt made of a thin nanowire mesh to propel itself and collect oil. The nanomaterial, patented at MIT, can absorb up to 20 times its weight in oil. The flexible conveyor belt softly rolls over the ocean's surface, absorbing oil while deflecting water because of its hydrophobic properties**

Sea swarm is meant to figure as a fleet, or "swarm" of vehicles, which communicate their location through GPS and Wi-Fi so as to make an organized system for collection that can work continuously without human support. Sea swarm works by detecting the sting of a spill and moving inward until it's removed the oil from one site before joining other vehicles that are still cleaning. The fleet uses cutting-edge nanotechnology to unravel current environmental problems while envisioning long-term solutions for the longer term. With a replacement design strategy, we will revive and preserve the standard of our oceans.

Keywords— **Nanowire mesh, sea-swarm, nano-material, hydrophobic properties', GPS&WIFI system, swarm, unravel current environment.**

I. INTRODUCTION

Each Sea swarm robot is comprised of ahead, which is roofed by a layer of photovoltaic cells, and a nanowire-covered conveyer belt. The photovoltaic cells generate enough electricity to stay thefleet moving for several weeks and supply the energy to propel the vehicles forward. As the head moves through the water, the conveyor belt constantly rotates and sucks up pollution. The nano wire-covered belt is then compressed to get rid of the oil. As the clean part of the belt comes out of the top, it immediately begins absorbing oil, making the gathering process seamless and efficient.

This process is more streamlined than current ocean-skimming technologies because the robots can operate autonomously and donot get to return to the shore for constant maintenance. As the vehicles add unison, they'll cover large areas and by communicating with one another and researchers ashore, they'll coordinate their collection efforts. Measuring just 16 feet long by seven feet wide, the fleet can access hard-to-reach places like coastlines and estuaries

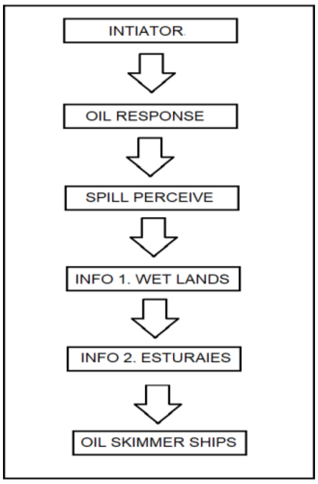

Fig.1 Proposed model of projection through various steps to carry out the output of skimmer for the spilledships

II. NANOWIRE MESH

Considerable uncertainty in understanding ofnano-specific attributes and relevance to biological and environmental effects

- Size matters, but it's not clear there is a brightline, e.g., at 100 nm
- Regulatory approaches are likely to be case-by-case in the near term
- Perceptions outside of the industry and the government are critical and proactive measuresto communicate with the public are critical to successful development of nano-products the design of a back propagation neural network fractional controller is designed based on Harsdorf derivative and integral, which isintroduced to PID controller and, the tuning process for all controller parameters and order is done using Borges derivative which enhance the optimization process and fastly obtained the suitable values for reaching to desired response and finally a comparison with PIDNN that show the improvement appear on the response speed with accurate and stable behavior.

functions are minimized when compared with classical PID controllers.

In [1] author adopts three controllers a classical PID controller tuned using Ziegler-Nichols, classical PID controller tuned using ant colony optimization method and finally FOPID controller tuned using ant colony optimization for controlling the speed of a DC motor, the simulation results show the efficient behavior of FOPID in minimizing the error value between actual and desired response at steady state with minimum overshoot and settling time, in [9] a FOPID controlleris used for controlling a model of third-order (a permanent magnet synchronous motor), parameters of the controller are obtained analytically that achieves an efficient performance when compared with optimal FOPID and Bode shaping FOPIDcontrollers.

III. WASTE OIL TRAY SETUP

Each robot is comprised of a head, which is roofed by a layer of photovoltaic cells, and an oil absorbing fabric covered conveyer belt. The photovoltaic cells generate enough electricity to stay the fleet moving for several weeks and supply the energy to propel the vehicles forward.

As the top moves through the water the conveyer belt constantlyrotates and sucks up pollution. The fabric-covered belt is then compressed to get rid of the oil. because the clean a part of the belt comes out of the top it immediately begins absorbing oil, making the gathering process seamless and efficient.

This process is more streamlined than current ocean-skimming technologies because the robots can operate autonomously anddon't get to return to the shore for constant maintenance.because the vehicles add unison, they will cover large areas and by communicating with one another and researchers ashore Measuring just 16 feet long by seven feet wide, the fleet can access hard to succeed in places like coastlines and estuaries.

Recent years have witnessed, many cities facing problems in waste management. Many steps have been taken on separation and recycling of wastes. Bio- degradable wastes can be used asmanure for gardens at houses. To avoid accumulation of wastes,a waste grinding dustbin, can be developed.

The wastes generated at home can be converted in manure at home itself. used one has fast dynamics and other with time delayed system then the behavior for both systems used showedthe accurate and robust response with satisfied results. an adaptive controller is proposed for controlling ferroresonance system based on FOABC, FO Lyapunov stability method is used and the update and virtual control lawsis test at each stage to achieve an enhanced behavior in controlling the ferroresonance system with effective desired response.

In [2] the design of a back propagation neural network fractional controller is designed based on Hausdorff derivative and integral, which is introduced to the controller and, the tuning process for all controller parameters and order is done using Borges derivative which enhance the optimization process and fastly obtained the suitable values for reaching to desired response and finally a comparison with PID software that show the improvement appear on the response speed with accurate and stable behavior.

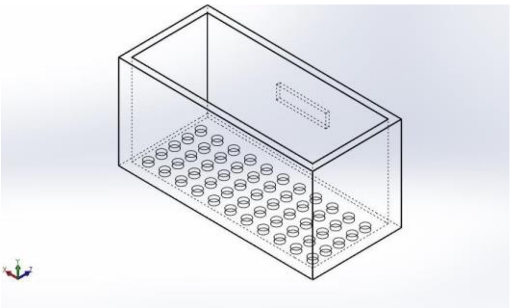

Fig2. Profitable removable tray setup based on direction of current

IV. OLDEN DAY SKIMMER SYSTEM

Following the 2010 august greatest oil spill, 5 million barrels ofoil leaked in the GULF OF MEXICO in order to remove the oilfrom the surface of the ocean, over 800 skimmers were deployed. However, these skimmers were capable of collecting only 3% of the overall spill. The main problem arises from the challenges faced by operation flexibility and scalability

Fig3. Olden day skimmer system where 5 million of oil barrels leaked

V. APPLICATIONS OF WASTE BURNING OIL SYSTEM

It can be very effectively used for skimming away oil spills from the surface of oceans. The deep-water horizon rig regions can use the Sea swarm in case of accidents.

It can also be used in oil refineries near to oceans or any other industries which dispose chemicals and other wasteoils to the rivers nearby.

E. ADVANTAGES

- Small and compact
- Inexpensive
- Scalable
- Self-organizing
- Atomization compatibility
- Corral, absorb and process
- Uses renewable source-solar energy

Fig4. August greatest oil spill A massive response ensuedto

protect beaches, wetlands and estuaries from the spreading oil utilizing skimmer ships

In [3] a FOSMC is proposed with spherical robot with input saturation and a filter is adopted to achieve good control response to defeat the input saturation. The stability is tested based on Lyapunov method and then it is compared with the traditional SMC, the adjustment time become shorter and no overshoot appeared in its response.

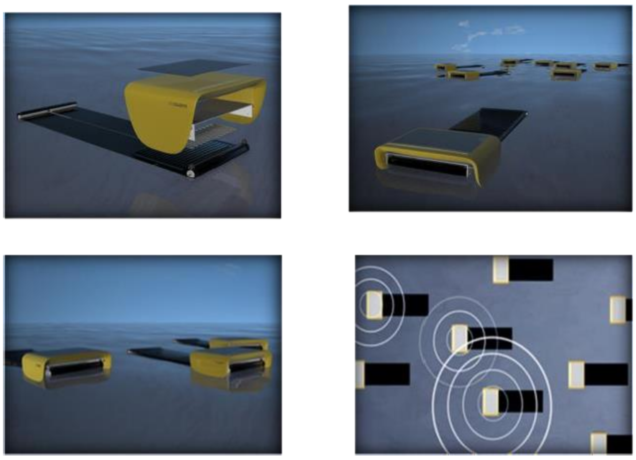

Fig5. Pictures and details of waste oil burning system signifiesThe final solution for tracer frequency

VII. CONCLUSION

From the papers demonstrated in this study it can be seen that System controller This streamlined process shows best result than current ocean-skimming technologies because the robots can operate autonomously. They use of to the shore for constant maintenance. because the vehicles add unison, they will cover large areas and by communicating with one another and researchers the system convergence and achieve robust behavior in facing disturbances and model uncertainties.

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