

| Claim | Formalization of the scientific claim with the Super-Pattern | | | | | Scientific claim as an AIDA sentence | Article identification |
|-------|--|---|---------------|---------------------------------|--|---|---|
| | Context | Subject | Qualifier | Relation | Object | | |
| 1 | NONE | new-series-of-chitosan-based-polyurethane-elastomers-using-PCL | generally | is same as | synthesizable-material | A new series of chitosan based polyurethane elastomers (PUEs) using aromatic diisocyanate poly(ε-caprolactone) (PCL) can be synthesized. | https://www.semanticscholar.org/paper/Synthesis-and-molecular-characterization-of-based-Zia-Anjum/25610e37a5f82b59056f046526df5a6b6c16776e |
| 2 | operant-research | inexpensive-photocell-for-arduino-vb-interface | can generally | contributes to | recording-controlling-events-activity | Inexpensive photocells for the Arduino-Visual Basic interface can be used for recording and controlling events in operant research. | https://www.semanticscholar.org/paper/New-Technologies-Applied-to-Operant-Research%3A-for-Escobar-Santill%3%A1n/0b5783130ba4447156b271d2dcdf9894a40ff995 |
| 3 | interleukin-12-produced-by-Toll-like-receptor-cells | Behcet's-disease | generally | contributes to | increased-T-helper1-cell-number | Interleukin (IL)-12 produced by Toll-like receptor (TLR)-expressing cells contributes to the induction of excessive [immune response] T helper 1 (Th1)-dominant immune responses in intestinal [disease] Behcet's disease (BD). | https://www.semanticscholar.org/paper/Involvement-of-innate-immunity-in-the-pathogenesis-Nara-Kurokawa/25683072710c6ee76e38f72ca95f0d315b543b |
| 4 | sinorhizobium-melioli | molecular-mechanisms-participatein-symbiosis | sometimes | is same as | molecular-mechanisms-participatein-pathogenesis | Symbiosis and pathogenesis of Sinorhizobium melioli share common molecular mechanisms. | https://www.semanticscholar.org/paper/Transcriptome-analysis-of-Sinorhizobium-melioli-Ampe-Kiss/28de6940e26f1c0986c9d25a5a5f395d050d812c |
| 5 | dictyostelium-discoideum | RrpC | generally | prevents | reverse-transcription-of-DIRS1-retrotransposon | RrpC in Dictyostelium discoideum silences post-transcriptionally the retrotransposon DIRS-1. | https://www.semanticscholar.org/paper/The-Dictyostelium-discoideum-RNA-dependent-RNA-RrpC-Wiegand-Meier/b11bc966cc6928a9fcbcaebc7f9d37e2888fe8f |
| 6 | asterix-comic-books | traumatic-brain-injury | generally not | causes | permanent-neurological-deficit | In the Asterix illustrated comic books, incidences of traumatic brain injury lead to no permanent neurological deficits. | https://www.semanticscholar.org/paper/Traumatic-brain-injuries-in-illustrated-literature%3A-Kamp-Slotty/184f548c80c40f3a45dc2135d2c2d2cfe9df3 |
| 7 | SIMPLE STATEMENT | unique-state-of-Being-in-immersive-virtual-environments | NONE | has created | paradigm-shift-in-what-humans-are-now-able-to-experience | The unique state of Being in immersive virtual environments (VEs) has created a paradigm shift in what humans are now able to experience. | https://www.semanticscholar.org/paper/Performing-in-virtual-spaces%3A-Embodiment-and-in-Morie/80cb2b87b060859c47073a1c4f1ca7c2d4ae292e |
| 8 | biodiesel-transesterification-reactions | use-of-ultrasound-irradiation | generally not | requires | additional-heating-as-catalyst-for-chemical-reaction | The use of ultrasound irradiation in biodiesel transesterification reactions does not require any additional heating. | https://www.semanticscholar.org/paper/Biodiesel-by-Transesterification-of-Rapeseed-Oil-A-Encinar-Pardal/eaab45d248cebb1d42af6377f4783b6483d9d8ff |
| 9 | web-representations-of-people | activity-of-assigning-NDC-labels | can generally | contributes to | people-directory-service | Assigning Nippon Decimal Classification (NDC) numbers to people on the Web, labels can be assigned to people and a NDC-based people directory can be built. | https://www.semanticscholar.org/paper/People-search-using-NDC-classification-system-Murakami-Ura/23a6ae24c8ca8abd7b60c876e5f30b649ce459cd |
| 10 | very-deep-neural-networks | performance-of-training-with-explicit-reformulation-of-layers-with-learning-residual-functions-with-reference-to-input-layers | generally | has larger value than | performance-of-training-with-learning-unreferenced-functions | Very deep neural networks that use training that explicitly reformulates the layers as learning residual functions with reference to the layer inputs instead of learning unreferenced functions are easier to optimize. | https://www.semanticscholar.org/paper/Deep-Residual-Learning-for-Image-Recognition-He-Zhang/2c03df8b48b3fa39054345bafabfeff15bf1d1d |
| 11 | menopausal-women | intake-of-licorice-roots | generally | decreases | frequency-of-vasomotor-hot-flashes | The intake of licorice roots decreases the frequency of vasomotor hot flashes in menopausal women. | https://www.semanticscholar.org/paper/Effects-of-Licorice-on-Relief-and-Recurrence-of-Hot-Nahidi-Zare/bafcd823a17b202093bd584ec5195ffb3a47d4251 |
| 12 | Japanese-higher-level-education-curricula | excellence-of-curriculum | generally | requires | CLIGAL-L1-japanese-L2-english | CLIGAL (content language integrated global awareness learning) in L1 Japanese and L2 English are necessary to create excellence across the Japanese higher education curriculum. | https://www.semanticscholar.org/paper/Creative-Excellence-in-the-Japanese-University%3A-and-Brady-Higgins/630b2a428b277bc20be1db4e97fc5b40d6481898 |
| 13 | tomicus-piniperda | lodgepole-pine | generally | is necessary and sufficient for | survival | Tomicus piniperda can survive entirely on lodgepole pine. | https://www.semanticscholar.org/paper/Pinus-contorta-as-a-potential-host-for-Tomicus-L-L%3C3%A5ngstr%3C%86m-Hellqvist/69ec6852f927784752b3d404404beca02b76293e |
| 14 | NONE | human-ovarian-cancer-cell-lines-and-human-endometrial-cancer-cell-lines | frequently | includes | misidentification | Human ovarian and endometrial cancer cell lines are frequently misidentified. | https://www.semanticscholar.org/paper/DNA-profiling-analysis-of-endometrial-and-ovarian-Korch-Spillman/47f261350333ac7149afee8062ae8c59e7695448 |
| 15 | laser-applications | information-about-relative-strength-of-individual-modes-of-a-laser-beam | can sometimes | enables | evaluation-of-beam-quality | For certain important applications information about relative strength of the individual modes of a laser beam is sufficient to evaluate beam quality. | https://www.semanticscholar.org/paper/Online-laser-beam-characterization-by-means-of-Duparre-Rockstuhl/cb8b45f16d53e1915b30d909e56434721ffe70d0 |
| 16 | SIMPLE STATEMENT | average-time-debt-restructurings-with-private-creditors-in-democracies | NONE | has larger value than | average-time-debt-restructurings-with-private-creditors-in-autocracies | Debt restructurings with private creditors in democracies experience longer restructurings than in autocracies. | https://www.semanticscholar.org/paper/Time-for-a-haircut%3A-political-regimes-and-sovereign-Mamone/768d1971c11221a82422e4d416112915129917ab |
| 17 | NONE | viable-quaternion-based-complementary-observers-for-rigid-body-attitude-estimation | generally | contributes to | human-motion-applications | Viable quaternion-based complementary observers that are designed for rigid body attitude estimation are promising for human motion applications such as ambulatory monitoring. | https://www.semanticscholar.org/paper/Complementary-Observers-for-Body-Segments-Motion-by-Fourati-Manamanni/b18c35636d8b29fe0dc7ff9781d8a6cd358c91 |
| 18 | dense-hydrogen-plasma | quantum-diffraction-effect | generally | has larger value than | electron-ion-correlation-effect | In dense hydrogen plasmas, quantum diffraction effects prevail over electron-ion correlation effects. | https://www.semanticscholar.org/paper/Correlation-effects-on-the-temperature-relaxation-Daligault-Dimonte/d8de6a0b4c8643e89f66e4fef6445c0b5a68a5b |
| 19 | bus-networks | application-of-multi-agent-paradigm | can generally | contributes to | improvement-of-management-of-bus-networks | The multi-agent paradigm is beneficial for improving the management of bus networks. | https://www.semanticscholar.org/paper/An-Agent-oriented-approach-to-Transportation-Balbo-Pinson/108e77aaa0db3a739bd1d485fc567765588331 |
| 20 | acute-anterior-circulation-cerebral-infarction | efficacy-treatment-with-shuxuetong-and-butylphthalide | generally | has larger value than | efficacy-treatment-with-shuxuetong alone | Treatment of acute anterior circulation cerebral infarction with Shuxuetong and Butylphthalide is more efficacious than treatment with Shuxuetong alone. | https://www.semanticscholar.org/paper/The-Efficacy-of-Butylphthalide-and-Shuxuetong-in-of-Na/0668b4e01e5971767a2bbafa93e3771dd78901e2 |
| 21 | patients-with-acute-embolic-stroke-in-anterior-cerebral-circulation | treatment-with-hyperbaric-oxygen-therapy-and-intravenous-edaravone-administration | generally | is same as | effective-treatment | Hyperbaric oxygen therapy combined with intravenous edaravone administration is effective for the treatment of patients with acute embolic stroke in the anterior cerebral circulation. | https://www.semanticscholar.org/paper/Hyperbaric-oxygen-combined-with-intravenous-of-Imai-Mori/81dfe750306ab6ccf44de1161be338e551f1006 |
| 22 | DMET-array | SNP-call-rate-required-for-saliva-derived-DNA | generally | has smaller value than | SNP-call-rate-required-for-blood-derived-DNA | Saliva-derived DNA requires fewer SNP calls compared to blood-derived DNA on the DMET Array. | https://www.semanticscholar.org/paper/Genotyping-Performance-between-Saliva-and-Genomic-A-Hu-Enli/135fd26cf074ef77284176eb7f731d9f664a829 |
| 23 | steel-plant-in-Thailand | CO2-emission | frequently | is caused by | electricity-generation | One of the major CO2 emission sources in Thai steel industry is electricity generation. | https://www.semanticscholar.org/paper/The-current-situation-on-CO2-emissions-from-the-in-Sodsai-Rachdawong/b19d8ae52b6ee193c106966c830ac4ec738e35ca |

| Claim | Formalization of the scientific claim with the Super-Pattern | | | | | Scientific claim as an AIDA sentence | Article identification |
|-------|--|--|---------------|---------------------------------|---|---|---|
| | Context | Subject | Qualifier | Relation | Object | | |
| 24 | caladenia-orchid | mycorrhizal-specificity | generally not | inhibits | distribution-at-landscape-level | Mycorrhizal specificity in Caladenia orchids does not limit their distribution at a landscape level. | https://www.semanticscholar.org/paper/Mycorrhizal-specificity-in-widespread-and-Caladenia-Oklaria-Whitehead/493282c61ee8929593a2bf1641c73addefae055b |
| 25 | NONE | dose-response-relationship-hasResponseType-congenital-toxicity-and-hasDoseType-tetrahydrocannabinol | generally | is same as | non-linear-sigmoidal-relationship | Tetrahydrocannabinol (THC) shows a non-linear sigmoidal dose-response relationship in terms of congenital toxicity. | https://www.semanticscholar.org/paper/Chromothripsis-and-epigenomics-complete-causally-Reece-Hulse/70f5097bf5e3877e9d7b17697e602dd7f1a0dd0 |
| 26 | caprine-animals-at-a-farm-in-wayanad-district-kerala-south-india | gastrointestinal-nematode | mostly | is same as | strongylosis | Strongylosis is the most predominant gastrointestinal nematode in a caprine farm of Wayanad district, Kerala, South India. | https://www.semanticscholar.org/paper/Pattern-of-Occurrence-of-Gastrointestinal-in-an-of-Sanalakumar-Puravil/dce7ffa593d0f515a68b20c369c1b71337df971b |
| 27 | NONE | process-of-Khalifbadam-et-al-electrolysis-filter-and-bioelectrochemical-system | can generally | contributes to | treatment-of-particulate-rich-wastewater | A novel process for the treatment of particulate-rich wastewater consisting of an electrolysis filter and a bioelectrochemical system (BES) has desirable features for practical application. | https://www.semanticscholar.org/paper/Sequential-solid-entrapment-and-in-situ-alkaline-of-Khalifbadam-Ginige/98f973166d46de4cbb5c48f07e69744ddc57e86 |
| 28 | SIMPLE STATEMENT | improved-algorithm-based-on-dark-channel-prior | NONE | is superior | algorithm-based-on-dark-channel-prior | An improved haze removal algorithm based on dark channel prior is superior. | https://www.semanticscholar.org/paper/Improved-image-haze-removal-algorithm-based-on-fast-Yu-Pan/7fcec3ad0136c08092f3dc891630e81f538c2a |
| 29 | NONE | Fourier-multiplier-operator-with-symbol-that-satisfies-Hytenen-anisotropic-Mihlin-type-condition | always | is same as | Fourier-multiplier-operator-that-is-bounded-on-lp | An anisotropic Mihlin-type condition on the symbol guarantees the boundedness of the associated Fourier multiplier operator on $\mathbb{S}^L_p(\mathfrak{m}^{\mathfrak{h}\mathfrak{f}}(\mathfrak{R})^n, \mathfrak{X})$ for $1 \leq p \leq \infty$. | https://www.semanticscholar.org/paper/Anisotropic-Fourier-multipliers-and-singular-for-Hyt%C3%B8nen/cc89a99f5dc5d65d2f62da16bba43d01b1c3a294 |
| 30 | goat-meat-nuggets | inclusion-of-enoki-msw-powder | generally | increases | oxidative-stability | The inclusion of enoki (<i>Flammulina velutipes</i>) mushroom stem waste (MSW) powder significantly improves the oxidative stability of goat meat nuggets. | https://www.semanticscholar.org/paper/Application-of-Enoki-Mushroom-Flammulina-Stem-as-Banerie-Das/1b9603efcdca239b4b0c6b41275539b167ddad |
| 31 | coal-fired-power-plants-configured-with-multiple-stages-or-steps | polymer-membrane-systems-for-post-combustion-carbon-dioxide | generally | is necessary and sufficient for | capture-targets-of-90-percent-CO2-removal-efficiency | Polymer membrane systems for post combustion carbon dioxide at coal-fired power plants configured with multiple stages or steps are capable of meeting capture targets of 90% CO ₂ removal efficiency. | https://www.semanticscholar.org/paper/Techno-economic-assessment-of-polymer-membrane-for-Zhai-Rubin/1a75d9d8f36404549e4d8366212ee4d8872c6bb6 |
| 32 | corporate-jets | average-price-level | sometimes | has larger value than | general-price-level-of-GDP-deflator | The average price level of corporate jets has significantly outpaced the general price level measured by the GDP deflator. | https://www.semanticscholar.org/paper/A-Chain-Type-Price-Index-for-New-Business-Jet-Choi/127ef46b8800ff352f27f5273fd494086a457 |
| 33 | rat-brain-endothelial-cell | transient-oxidative-stress | generally | affects | pgp-expression | In rat brain endothelial cells, the transient oxidative stress affects the P-glycoprotein (Pgp) expression. | https://www.semanticscholar.org/paper/P-glycoprotein-expression-in-rat-brain-endothelial-Felix-Barrand/ae5fcd0413a1966bb973d3c9d32221e31f8e5c40 |
| 34 | montaine-environments-throughout-north-america | ponderosa-pine-population | generally | includes | potential-adaptations-to-pleistocene-climates-with-discrete-temporary-glacial-refugia | Ponderosa pine (<i>Pinus ponderosa</i> Douglas ex Lawson) populations in montane environments throughout western North America have potential adaptations to Pleistocene climates associated with discrete temporary glacial refugia. | https://www.semanticscholar.org/paper/Exploring-Climate-Niches-of-Ponderosa-Pine-Pinus-Shinneman-Means/2c76a6887594c5401cb260bfa1596d71103287ad |
| 35 | ferrite-pearlite-railway-wheel-steel | laser-dispersed-treatment | can generally | contributes to | rolling-contact-wear-and-fatigue-resistance | The laser dispersed treatment improves the rolling contact wear and fatigue resistance of ferrite-pearlite railway wheel steel. | https://www.semanticscholar.org/paper/Influence-of-laser-dispersed-treatment-on-rolling-Zeng-Lu/03b67ed643bf449c04e8dab272104b481c4ece |
| 36 | acute-bone-loss-and-acute-bone-nonunion | solid-autogenous-bone-graft-or-cancellous-autogenous-bone-graft | can generally | contributes to | treatment | Solid and cancellous autogenous bone grafts are used in the treatment of acute bone loss and nonunion. | https://www.semanticscholar.org/paper/Use-of-solid-and-cancellous-autologous-bone-graft-Marino-Ziran/7942526acd4df57e6dbbcb59242f06e348a3e3 |
| 37 | pediatric-patient-with-general-anesthesia | preoperative-anxiety-and-preoperative-pain-in-routine-care-of-anesthetist | generally | decreases | incidence-of-emergence-agitation | The incidence of emergence agitation (EA) in pediatric patients who underwent general anesthesia can be minimized if preoperative anxiety and pain are considered in the routine care by an anesthetist. | https://www.semanticscholar.org/paper/Incidence-of-Emergence-Agitation-in-Pediatric-after-Andriyanto-Utariani/1adb2b431452c731835977b93e43011ef2bcc19 |
| 38 | worker-in-electromechanical-industry | lifelong-education | generally | requires | extensive-international-knowledge | Coping with the fast development in their workplaces, lifelong education in the electro-mechanical industry requires extensive international knowledge. | https://www.semanticscholar.org/paper/Lifelong-education-in-robotics-and-mechatronics-Rojko-Kozlowski/3010418f8990af2423dc59007965d059d9b24e37 |
| 39 | geoscience-approaches-to-create-realistic-stochastic-fault-network | a-new-method-to-create-realistic-stochastic-fault-networks-based-on-binary-tree | can generally | contributes to | creation-of-variety-of-model-topologie | In geosciences, a new method for creating realistic stochastic fault networks based on binary trees can be used to create different model topologies. | https://www.semanticscholar.org/paper/Stochastic-simulations-of-fault-networks-in-3D-Chepeau-Caumon/f73a6586f3d1dc62323486d28461459206c82e48 |
| 40 | NONE | hydrothermal-method-for-novel-1D-chain-like-coordination-polymer | can generally | enables | synthesis-of-Pb-CDCA-2-DMF-DMF-2H2O-n | A novel 1D chain-like coordination polymer, $[\text{Pb}(\text{CDCA})_2(\text{DMF}) \cdot \text{DMF} \cdot 2\text{H}_2\text{O}]_n$ (I) (HCDCA = chenodeoxycholic acid, DMF = dimethyl formamide) was synthesized by hydrothermal method. | https://www.semanticscholar.org/paper/Hydrothermal-syntheses-and-crystal-structure-of-a-Guan-Liu/aca072a9927e9a13b79e09e3af5889ebcc718970 |
| 41 | pregnant-african-woman-in-muheza-tanzania | intermittent-preventive-treatment-with-sulfadoxine-pyrimethamine | generally not | contributes to | overall-pregnancy-outcome | Intermittent preventive treatment during pregnancy (IPTp) with sulfadoxine-pyrimethamine (SP) for African women in Muheza, Tanzania does not improve overall pregnancy outcomes. | https://www.semanticscholar.org/paper/Intermittent-treatment-to-prevent-pregnancy-malaria-Harrington-Mutabingwa/16bf17a2feebec42cc2e76071a39e6d158e4b08e |
| 42 | low-Mach-number-application | an-improved-entropy-consistent-Euler-flux | can generally | increases | low-speed-accuracy | An improved entropy-consistent Euler flux in low Mach number (EC-RoeM) improves low-speed accuracy. | https://www.semanticscholar.org/paper/An-improved-entropy-consistent-Euler-flux-in-low-Chen-Yan/beb2873aeb5afed070eada8081c21ad0a460fcf |
| 43 | patient-with-operation-of-cataract-phacoemulsification-at-department-ophthalmology-and-neurosurgery-siena-university | posterior-luxation-of-IOL | sometimes | is caused by | high-prevalence-of-pseudoexfoliation | For patients who had been operated for cataract phacoemulsification at the Department of Ophthalmology and Neurosurgery of the University of Siena, the occurrence of posterior luxations of in-the-bag intraocular lens luxation (IOLs) within one year can be linked to the high prevalence of pseudoexfoliation (PEX). | https://www.semanticscholar.org/paper/Spontaneous-in-the-Bag-Intraocular-Lens-Luxation-of-Balestrazzi-Tosi/a970271b99552584483c688af4efe3ef5a506ec6 |
| 44 | SIMPLE STATEMENT | frequency-of-molar-incisor-hypomineralization-within-boy-thats-schoolchild-of-7-to-12-years-in-government-and-private-school | NONE | has larger value than | frequency-of-molar-incisor-hypomineralization-within-girl-thats-schoolchild-of-7-to-12-years-in-government-and-private-school | Distribution of molar incisor hypomineralization (MIH) using the European Academy of Pediatric Dentistry (EAPD) criteria for MIH in schoolchildren of 7–12 years of age from government and private schools in Chennai is more in boys than girls. | https://www.semanticscholar.org/paper/Molar-Incisor-Hypomineralization-and-Its-Prevalence-Padavala-Sukumaran/44c9bd82e07a6d6a73ac78e3e5f4035a206e2cb9 |
| 45 | SIMPLE STATEMENT | chance-of-primitive-narrowing-of-great-saphenous-vein-segments-within-varicose-limb | NONE | has larger value than | chance-of-having-primitive-narrowing-of-great-saphenous-vein-segments-within-healthy-limb | Primitive narrowing of great saphenous vein segments (saphenous hypoplasia) occurs in varicose limbs more frequently than in healthy [limbs] ones. | https://www.semanticscholar.org/paper/Segmental-hypoplasia-of-the-great-saphenous-vein-Caggiati-Mendoza/98d9770bccae831589bdd6bd5c51fc5aeb2ef57ae |

| Claim | Formalization of the scientific claim with the Super-Pattern | | | | | Scientific claim as an AIDA sentence | Article identification |
|-------|--|--|---------------|----------------|--|--|---|
| | Context | Subject | Qualifier | Relation | Object | | |
| 46 | ventricular-septal-defect-and-left-ventricular-outflow-tract-obstruction | transposition-of-great-arteries-with-Lecompte-procedure-and-Rastelli-repair | generally | contributes to | treatment | The Lecompte procedure and Rastelli repair in the transposition of the great arteries (TGA) with ventricular septal defect (VSD) and left ventricular outflow tract obstruction (LVOTO) provide satisfactory early [results] and late results. | https://www.semanticscholar.org/paper/Repair-of-transposition-of-the-great-arteries%2C-and-Lee-Lim/4fa74a5fd286acbe764e8e484136da9db0050d22 |
| 47 | person | obesity-with-metabolic-abnormality | generally | co-occurs with | knee-osteoarthritis | Obesity when accompanied by metabolic abnormality is closely associated with knee osteoarthritis. | https://www.semanticscholar.org/paper/Obesity%2C-metabolic-abnormality%2C-and-knee-A-study-in-Lee-Kim/eb8b7a2abef2e75f7b0f59ac3325a795fb672993 |
| 48 | student-with-visual-impairments | program-about-oral-hygiene-skills-uses-group-instruction-and-individual-coaching | can generally | increases | oral-hygiene-skill | A program that taught oral hygiene skills to students with visual impairments using group instruction and individual coaching enhances the oral hygiene skills of the participants. | https://www.semanticscholar.org/paper/Teaching-Oral-Hygiene-Skills-to-Elementary-Students-Shih-Chang/5eb25fd3b6b2e35d8d6784a898f9578365043f0 |
| 49 | magneto-electro-elastic-cantilever-beam-in-thermal-environment | pyroelectric-effect | generally | increases | electric-potential-observed-at-volume-fraction-of-BaTiO3-0.2 | A magneto-electro-elastic cantilever beam under thermal environment has a significant increase in electric potential observed at volume fraction of BaTiO ₃ , $v_f = 0.2$ due to pyroelectric effect. | https://www.semanticscholar.org/paper/Studies-on-magneto-electro-elastic-cantilever-beam-Kondaiah-Shankar/ad844432f09c901fd5af2a3c7ab4fcb4d78aa22d |
| 50 | detection-of-holes-with-global-optimization-techniques-and-parameter-identification-techniques | accuracy-of-direct-model-application-to-detect-holes-in-a-plate | mostly not | is same as | accuracy-of-inverse-model-application-to-detect-holes-in-a-plate | The detection of holes in a plate using global optimization [techniques] and parameter identification techniques for the direct model and for the inverse model have comparable results. | https://www.semanticscholar.org/paper/Detection-of-holes-in-a-plate-using-global-and-Lopes-Jorge/7754cdc703a2e8de29feb1ae690803a651ce0348 |