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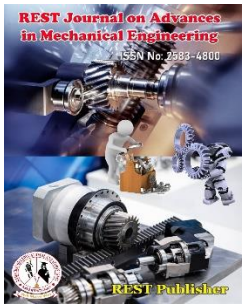

Weighted Sum Model (WSM) for Evaluating Turbocharged Stratified Injection

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Abstract. *Turbo fuel stratified injection is a Volkswagen Group trademark for a forced-aspiration engine in which the fuel is pressurized to form a stratified charge directed directly into the intake chamber. TSI stands for "turbocharged stratified injection" and is inspired by the Volkswagen TDI clean diesel and FSI direct fuel injection engines. The engine allows more torque at lower RPMs, which means more power with less fuel consumption. Alternative: R1, R2, R3, And R4. Assessment Option: GSH, vitamin C, XOD, MDA, ORAC. From the result it is seen that vitamin C is got the first rank where as is the MDA is having the lowest rank. As a result, vitamin C has got the first rank, where the MDA has got the lowest rank.*

1. INTRODUCTION

TSI stands for "Turbocharged Stratified Injection". Acronym for and Volkswagen DTI Clean Diesel and FSI Direct By fuel injection engines impressed. The engine is high at low RPMs Allows torque, lower more power with fuel consumption. The TSI engine is a single-scroll turbocharger design, while the TFSI engine uses a twin-scroll turbocharger. This difference results in different performance characteristics for the two engines. The TSI engine is more efficient and has better throttle response than the TFSI engine. Turbo Fuel Stratified Injection is a trademark of the Volkswagen Group for a forced-aspiration engine in which fuel is pressurized to form a stratified charge directed directly into the afterburner chamber. What The difference between TSI and TDI engine is TSI The engine is petrol, whereas the TDI engine is diesel. TDI stands for Turbocharged Direct Injection; Again, it is a turbo diesel unit. TSI Machines are compact, more powerful and consume less fuel. TSI technology combines the best TDI diesel and FSI petrol engines to give you better performance and better fuel economy. Green hydrogen the plan is to achieve a low carbon footprint another step. The weighted sum method is multiple Criterion-based decisions making is proper. There is be many alternatives, and many best in terms of criteria we must determine the alternative. Weighted sum model (WSM), weighted linear Also known as admission (WLC) or waiting (SAW). A simple combination called multiple alternatives based on decision criteria.

2. TURBOCHARGED STRATIFIED INJECTION

Model 3306 A Valve Stem, Actuator, USB Inlet, 20 cm or 40 cm extension, impact or CHEMICALS OF PLATE AND FILTER MDI ASSEMBLY Analysis model 3306 between actuator and USB inlet Blower to ensure a good fit With USP inlet using adapter is attached. [1] 5 of each vial during the 40-second data collection period the method is executed. At the USP entrance Chemical analysis of drug, exts (20 cm or 40 cm) dissolved using the drug is produced. Impact or or plate and strainer known constituents of the mobile phase. [2] The mobile phase is lined with cotton-tipped cloth the medicine in the impact plate by wiping the plate recovered. Cotton tip of the mobile phase kept at a known level for 5 minutes. Between the USB inlet and the ACI inlet adding vertical extensions is a notable wall No losses were incurred. Area. [3] In 36 of the 42 trials performed, no measurable drug was found in the extensions. Of the six stretches where the drug was detected, the range was 0.38% - Average recovery rate of 2.94% ranged from 1.07% to 0.94% was one that had an extension recovery of more than 1% there is only the case. Extension length, drug or examining the ethanol concentration, which No trends were observed. So, the extension appears not to affect aerodynamics and Drug deposits in the extension may be

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considered to be very low. [4] Isomeric of different equilibrium structures Potential energy surface of reaction pathways the profile as shown in Figure 3, in which each other Direct analysis of comparability and consistency can do 1 and between Interco version 2 Ts12 shift in the Li-Cl2 bond along the Si-Cl2 axis through point rotates. In the 1 to 2 isomerization, Li-Cl2 Other configuration of Ts12 except for bond 41.6 parameters Si-Cl2 axis are very close to Ts12 from 1 isomerism. 4.6 kJ / mol; Isomer zing 1I2 is very easy. [5] However, 2 isomers 1 have barrier of 43.2 kJ/mol. Therefore, structure 2 is other more stable than patterns is shown. Above this concentration, the response is linear increases rapidly without it is mostly Due to additional damage to the glass capillary tube in the system occurs. As three tests were conducted, these losses appear to be consistent. Of an instrument there are many factors that affect the nonlinear response, including particle fluctuations and the dilution system Such as other loss mechanisms in However, as far as the nature of the study is concerned, theory and Mechanics on which they are based have not been explored. [6] The Pyris-1 TGA instrument was paired with the PIKE 6141 spectrometer to perform TG-FTIR analyzes. The output of the TGA engine is connected online to the spectrometer via the TG-IR interface, which has a gas cell heated to 200 C to prevent shrinkage in the windows. Connects to TGA with transmission line interface heated to 220 C. The sample was placed in a DGA instrument and the generated gases were transported to an FDIR spectrometer to identify the gas decomposition products. [7] The scan ratio of the FTIR spectrometer was 1 scan / 6s out of 500-4000cm1, and for mono disphers aerosols with a resolution of 2 cm1 some gains from HTS were classified as agonists of the NURR1 / NOT recipient. [9] Integrated optimization represents a very short and strong structural functional relationship and has led to demonstration of neurological and anti-inflammatory functions in many in vitro and in vivo models. During this work, we gave priority to active compounds in both the CHO and N2A cell lines. Go to CHO sequence selects only the agonists of the homodyne receptor, revealing that it is not the fusion protein associated with Gal4, while the N2A cell sequence is the homodyne or heat of mouse Nurr1 expression. [10]. Lipid per oxidation product increased 150% in renal tissues [11] Effect of bilberry extract on ORAC and NO levels in kidney tissue. KBrO3-mediated ORAC levels during oxidative stress caused by KBrO3 Table 4 show the effect of bilberry extract. ORAC levels were reduced to 67% in normal mice as a result of treatment with KBrO3. KBrO3 induced results show that antioxidant pressure plays an important role in kidney damage. In contrast, bilberry juice at 100 and 200 mg / kg significantly improved the volume recovery of ORAC doses. To Norma-like conditions. [12] The effects of bilberry juice on controlled stress are well known. Therefore, we evaluated the antiseptic effects of bilberry juice by examining vitamin C levels in rats controlled by oxygen intensive absorption (ORAC), glutathione (GSH) and stress regulation. Control with a detailed history in animal physiology, pathology and pharmacology is widely used and has been shown to be very useful in studying stress-related disorders and the pharmacological effects of these disorders. [13] Promotes lipid per oxidation in liver tissue, which changes the balance between oxidation and antioxidants leading to antioxidant damage. We believe that Bilberry juice may have a protective effect on liver damage antioxidant pressure. Controlling the levels of Antioxidant enzymes are genetically controlled; [14] For example, induction of cataloes and superoxide dismutase (SOD), such as Escherichia coli or Salmonella typhoid, anaerobic changes or observed during treatment with H202, and adaptation events were described as the absence of double strain of E. [15] coli. Of the two SOD functions, during H202 adaptation to S., could not grow in the minimum medium, 30 proteins were induced, and 9 proteins for stress. Were shown to be positive for regulation against defense. DNA-damaged agents, in addition to the other three universal responses (SOS response, conversion to alkylation agents and heat shock). Protein Activated directly by oxidation in cells, in which region was removed, spontaneous mutation was dramatic, and mutation level was lower than controls. The genetically over-stressed cells. In addition, antioxidant pressure causes proliferation of paroxysms, and dense populations of paroxysms on the bacterial specimen may be more efficient at removing ROIs, especially H2O2, spread from cytosol to paroxysms. [16] The water-water cycle uses its reducing energy directly from photosynthesis, so this cycle appears to be autonomous with respect to its energy distribution, [17] In addition, Vitamins C and E, individually or together, antioxidants such as fat production, plasma and NF-dB activation in diabetic animals Normalizes many parameters of pressure, and changes in retina, nephropathy, neurology and many other early or functional markers include blood flow, velocity, and heart disease. Reported to be inhibited or modified by antioxidants, including infiltration, endothelial, albuminuria and vascular Shrinkage, and some reports suggest that vitamins C and E may also be present. [18] Cause delayed pathological changes in the retina. Studies using super-antioxidant doses of vitamin E on the peripheral nerves of diabetic animals show that it inhibits antioxidant pressure parameters and induced PKC activity and prevents vascular dysfunction in the retinal and renal glomeruli. Oxidative stress is caused by a decrease in ROS or a disturbance of the equilibrium between the antioxidant and the ROS due to accumulation. [19] Antioxidant Under stress, cells counteract the red sox balance by counteracting the antioxidant effects and oxidation and reduced glutathione Protects between enzymes (2GSH / GSSG), activates or calms enzymes and structure. Stress in the body. Increasing the production of ROS in the body alters the structure of DNA, resulting in proteins and Lipids can change, activate many stress-induced transcription factors, and produce anti-inflammatory cytokines. **[20]** The effects of cellular oxidants are related to the activation of transcription factors. The most important effects of oxidation on signaling pathways are found in atomic factor

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erythroid 2-associated, mitogen-activated protein (MAP) kinase / AP-1, and NF-kB pathways and hypoxia-induced transcription. [21] The cellular concentration of ROS affects the selective activity of these transcription factors, so oxidation is one of the key cellular defense mechanisms against oxidative stress, which may help to observe cell death or cell proliferation as a result of stress exposure. The human body. Many antioxidant genes are known to cause changes in the activity of enzymes. Superoxide dismutase 1 occurs as a binary of 16 homogeneous subgroups. [22].

3. WEIGHTED SUM MODEL (WSM)

Of incidence angle correction for ASAR WSM scenes Application from different angle observation ranges enabled independent static monitoring capabilities. A universal and robust method is essential, ESP For activity monitoring applications, where 'intense' There will be observations from observation angles. Also used. [1] WSM is one of the suppliers selected by VTC Included in this plan. Currently, WSM respects Very high VTC quality standards [2]. The algorithm was programmed for the desired simulation results using system model multi-objective DE. A multi-objective optimization is developed as an expressed weighted sum model. And two objective functions and 'w' is the weighting function. [5] A Interference power for a perceptual multiple access channel Controls and individual transmission power controls a study of the weighted sum ratio scaling problem is done. Where each SU communicates with a base station with a single transmit antenna and multiple receive antennas. [6] It will be shown later that Not strange for a weighted amount. Intuitively, the importance for both attributes A Pareto by successively changing the weights Follow the border from one end to the other it may seem like it can travel. [7] The Problem by adding objectives of objective function is constructed, two of the two criteria and Three in the case of three objectives, and one of them Multiplies by the parameter β. [8] The objective of weighted completion times when the machine is not available is to reduce the sum. For conversion weights to calculate the stocking cost per unit time of the product this is a valid objective because it can. Therefore, weighted by completed times the sum represents the global cost stocking. [11] Because Band models are generally relatively are associated with high computational effort are the weighted ash gases (WSGG) model of multiple global correlations have been created. [12] We solve the multi-objective model and empirically Based on portfolio VAR by research sampling under the normal distribution yield assumption Compare the results. By comparing results, investors hedge risk Improve awareness of investment risk it also helps to reduce. [13] It uses Various contextual [14] Among other common Product gases such as C02 and H20 are ash gas A weighted amount of the sample, which is non-ash gas Replaces with equally limited ash gases, It is known that simplified, [15] A weighted sum, or multiplication and accumulation, Functionality is essential but computational in these models It is a technically intensive task. Very low power of such computational tasks Commit to achieving consumption functions. [16] Values assigned by expert panel for both factor weights and subjective factor values we present an inclusive revised weighted sum model. In robot selection. This model means that there is no group consensus on values. A high degree of high and low expertise in weights and subjective factors to select robots values will be removed. Key to delete these values the reason is that the finality is to reduce the impact of potential distorted will. Segment. To illustrate the model, this extreme the rank change when compared to the model without removal of values a numerical example is also provided to demonstrate. [21]. the criteria complexity attracted we will use the Multiple Criteria Decision Making (MCTM) approach to solve this problem. In this paper, gray numbers and gray to evaluate and rank alternatives we also use the weighted sum model (GWSM). Several to check for changes that might affect the results we propose to consider uncertainties. A sensitivity analysis is carried out with Gambia has been ranked as the best country in West Africa. Long-term use of is available over many years and takes into account environmental uncertainty. Finally, GWSM can use investors' preferences in combination with various weighting techniques. [22]. removed. Robots. This model combines the opinions of several. A numerical example of the model is provided to illustrate and show the ranking change when comparing the model without removing the At least three for the selection process of this sample Expert opinions are needed. [23] It meets these criteria for weighting and scoring. Calculation Process Each school has a possible scoring format lowest [24].

TABLE 1. Turbocharged Stratified Injection in Data Set

	R1	R2	R3	R4
GSH	67.080	145.530	17.150	38.050
vitamin C	88.120	188.970	27.690	32.300
XOD	73.080	176.580	31.180	35.100
MDA	61.170	159.280	29.600	36.590
ORAC	65.330	144.410	22.960	26.890

Table 1 show the Turbocharged Stratified Injection shows the R1 it is seen that XOD the highest value for MDA is showing the lowest value. R2 it is seen that vitamin C is showing the highest value for ORAC is showing the lowest value. R3 it is seen that XOD is showing the highest value for GSH is showing the lowest value. R4 it is

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seen that the GSH is showing the highest value for ORAC is showing the lowest value. Alternative: R1, R2, R3, R4. Assessment Option: GSH, vitamin C, XOD, MDA, ORAC. It is solved by using the WSM method. It is the data set of this paper.

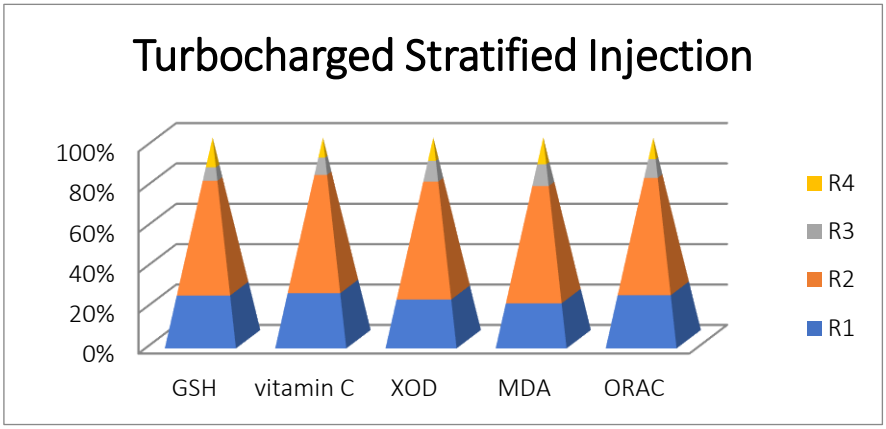

FIGURE 1. Turbocharged Stratified Injection

Figure 1 shows the graphical representation Alternative: R1, R2, R3, and R4. Assessment Option: GSH, vitamin C, XOD, MDA, ORAC.

TABLE 2. Turbocharged Stratified Injection in Normalized Data

Normalized			
0.76123	0.77012	1.00000	0.70670
1.00000	1.00000	0.61936	0.83251
0.82932	0.93443	0.55003	0.76610
0.69417	0.84289	0.57939	0.73490
0.74138	0.76420	0.74695	1.00000

Table 2 shows the Normalized Data for Hydrogen Mobility Alternative: R1, R2, R3, and R4. Evaluation Preference: GSH, vitamin C, XOD, MDA, ORAC it is also Maximum or Minimum value =C5/MAX ($C$4:$C$8), =MIN ($D$4:$D$8)/D6 Normalized Data formula used.

TABLE 3. Turbocharged Stratified Injection in Weight age

Weight			
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25
0.25	0.25	0.25	0.25

Table 3 shows the Weight ages used for the analysis. We took same weights for all the parameters for the analysis**.**

TABLE 4. Weighted normalized decision matrix

Weighted normalized decision matrix			
0.19031	0.19253	0.25000	0.17668
0.25000	0.25000	0.15484	0.20813
0.20733	0.23361	0.13751	0.19152
0.17354	0.21072	0.14485	0.18373
0.18534	0.19105	0.18674	0.25000

Table 4 shows the Weighted Normalized Decision Matrix. Alternative: R1, R2, R3, and R4. Evaluation Preference: GSH, vitamin C, XOD, MDA, ORAC it is also Weighted Normalized Decision Matrix value multiplication formula used.

TABLE 5. Preference Score

	Preference Score
GSH	0.80951
vitamin C	0.86297
XOD	0.76997
MDA	0.71284

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ORAC	0.81313

Table 5 Shows the Preference Score GSH = 0.80951, vitamin C = 0.86297, XOD = 0.76997, MDA = 0.82224, ORAC = 0.81313.

TABLE 6. Rank

	Rank
GSH	3.00000
vitamin C	1.00000
XOD	4.00000
MDA	5.00000
ORAC	2.00000

Table 5 shows the final result of this paper the GSH is in Fourth rank, the vitamin C is in First rank, the XOD is in Fourth rank, the MDA is in Fifth rank and the ORAC is in Second rank.

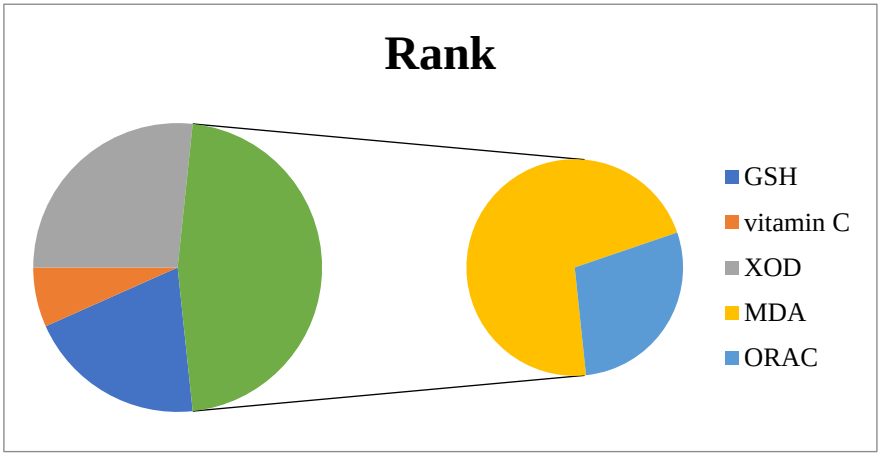

FIGURE 3. Rank

Figure 3 shows the graphical view of the final result of this paper the GSH is in Fourth rank, the vitamin C is in First rank, the XOD is in Fourth rank, the MDA is in Fifth rank and the ORAC is in Second rank.

4. CONCLUSION

From the result it is seen that vitamin C is got the first rank where as is the MDA is having the lowest rank. In 36 of the 42 trials performed, no measurable drug was found in the extensions. Of the six stretches where the drug was detected, the range was 0.38% - Average recovery rate of 2.94% ranged from 1.07% to 0.94% was one that had an extension recovery of more than 1% there is only the case. Extension length, drug or examining the ethanol concentration, which No trends were observed. So, the extension appears not to affect aerodynamics and Drug deposits in the extension may be considered to be very low. Coli. Of the two SOD functions, during H202 adaptation to S., could not grow in the minimum medium, 30 proteins were induced, and 9 proteins for stress. Were shown to be positive for regulation against defense. DNA-damaged agents, in addition to the other three universal responses (SOS response, conversion to alkylation agents and heat shock). Protein Activated directly by oxidation in cells, in which region was removed, spontaneous mutation was dramatic, and mutation level was lower than controls. The genetically over-stressed cells. In addition, antioxidant pressure causes proliferation of paroxysms, and dense populations of paroxysms on the bacterial specimen may be more efficient at removing ROIs, especially H2O2, spread from cytosol to paroxysms. We solve the multi-objective model and empirically Based on portfolio VAR by research sampling under the normal distribution yield assumption Compare the results. By comparing results, investors hedge risk Improve awareness of investment risk it also helps to reduce. It uses Various contextual Among other common Product gases such as C02 and H20 are ash gas A weighted amount of the sample, which is non-ash gas Replaces with equally limited ash gases, It is known that simplified,

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